

INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Add Russian Stories
Quote of the Week
Advertising as a Social Force
Gay Advertising
This Is True, Too
The Golden Goose

Story of the Week

Fellow known well to many readers of this column dictated a letter which he didn't bother to read carefully before signing.

"We have booked you for 4,000 units," he had dictated.

The customer read, "We have booked you for 4,000 units," and promptly broke off commercial relationships.

Good secretaries can be ultra-important.

Add Russian Stories

"What kind of telephone is that, Comrade?" wondered a Red China bureaucrat. "I perceive it has a receiver, but no mouthpiece."

"Ah, Comrade; that is my direct line to the Kremlin."

Quote of the Week

"Advertising men must keep a constant vigil to prevent the increasing trend of regulations and restrictive legislation on advertising, or its taxing. This may be accomplished by: 1. Policing within the industry to keep those few in line who would violate the high ethics of the profession. 2. Constantly watching proposals in state and national legislation that affect advertising directly or indirectly. 3. Educating legislators through understanding."—ELON G. BORTON, president, Advertising Federation of America.

Advertising as a Social Force

It is possible to advertise your product and the merits of the American idea at the same time by telling what your company is doing for the commonweal. We quote a sample of this kind of advertising:

"When potato growers started using DDT against insect pests of this crop, many farms yielded increases up to 25 barrels of potatoes per acre!

"Project these increases over all of America's potato acreage, and boy!—what a whale of a bonus in French Fries! There can't be anything wrong in that!

"Up-to-the-minute chemical bug-killers—such as DDT, Benzene Hexachloride, Penphos (Parathion) Products—these are typical of Pennsalt's contributions to bigger food crops and better living.

"There are many more Pennsalt chemical products which help make life better: Chlorine to sanitize drinking water; Caustic Soda to make paper pulp; Insecticides to aid in protecting crops, livestock, and the home; Bactericides to help protect milk and other foods; Cleaning Compounds for metals; and Laundry and Dry Cleaning preparations to make clothing clean and bright. Pennsylvania Salt Manufacturing Company, Philadelphia 7, Pa."

This advertisement, which appeared in the *Saturday Evening Post*, not only helps sell more of this firm's products, but explains to readers why and how this corporation is useful and helpful to each one of us.

See the point? Advertising can remind citizens why Enterprise benefits everyone while it sells the wares of the advertiser.

Incidentally, advertising maintains the freedom and go-to-hell independence of America's Free Press and Radio. When thousands of advertisers vie for time and space, no one buyer can influence an editor or commentator unduly.

Indigenous Americans have always shouted about their wares.

And it's a good thing they have, too.

If they hadn't boasted in print and in person America's High Standards

(Concluded on Page 6, Column 1)

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'52 Servel Line Features Color For Interiors

CHICAGO—Interior color trim and a second two-door model are among the highlights of the 1952 line of Servel refrigerators presented here last week at the annual meeting for the company's distributors in the Conrad Hilton hotel.

New models this year also feature automatic defrosting, a butter keeper, new "elbow-ease" door latch, special moist-cold area, an "odds-and-ends" basket and shelves in doors for small items, "dew-action" vegetable fresheners, "quick-cold" shelf, an

(Concluded on Page 26, Column 1)

Winter Mart Opens In Chicago Jan. 7

CHICAGO—The two-week winter Home Furnishings Market gets under way here Jan. 7 with a goodly number of dealers and buyers expected for first-day activities at the American Furniture Mart and the Merchandise Mart.

Visitors to appliance display rooms and booths probably will not see many major design changes in 1952 products but they may learn that more models will be available than had been anticipated in view of the defense program.

As was the case at recent markets, dealers undoubtedly will be asking a lot of questions about the production outlook. And it's likely they will also be on the lookout for new merchandising aids.

(Concluded on Page 25, Column 5)

I-H Will Postpone Room Cooler Production

CHICAGO—Because of the current materials situation, International Harvester does not plan to manufacture room air conditioners this year, it was reported by R. H. Burnside, assistant manager, general sales.

He said the company "prefers to use our available copper and aluminum for the production of refrigerators and home freezers at this time."

Burnside stressed that Harvester is continuing its experiments with the room units and expects to begin full production as soon as the materials situation permits. The company completed a \$250,000 air conditioning laboratory in Evansville, Ind.

Early in 1950, Harvester produced and distributed 1,000 units in southern cities.

4 Manufacturers Introduce 1952 Room Air Conditioner Lines

O. A. Sutton To Market Line Under 'Vornado' Name

WICHITA, Kans.—After three years of engineering and research, the O. A. Sutton Corp. here has introduced a line of room air conditioners which incorporates several exclusive features on which patents have been applied for.

The line, to be marketed under the trade name "Vornado," will include $\frac{1}{2}$, $\frac{3}{4}$, and 1-ton models. The $\frac{3}{4}$ -ton unit will go into production in early February, according to B. W. Jewell, vice president in charge of engineering.

(Concluded on Page 25, Column 1)

DPA Says Zinc, Copper Tighter Than 2 Mos. Ago

WASHINGTON, D. C.—The Defense Production Administration recently reported that copper, nickel, tin, lead, cobalt, and zinc are in even tighter supply than they were two months ago. Ammonia was also listed as a scarce material.

At the same time, DPA announced that it now has 75,000,000 lbs. of straight chromium stainless steel available for use by civilian industry. It urged manufacturers to submit supplementary applications for supplies of this metal for use during the first quarter.

The "surplus" arose, DPA explained because many manufacturers did not request it in the hope that they might be able to get an allotment of nickel bearing stainless steel. The agency said, however, that the nickel bearing type is in extremely short supply due to increasing demands for it in jet engines. It will remain in short supply for some time.

Producers of several of the scarce metals, particularly copper, zinc, and

(Concluded on Page 25, Column 5)

Landers, Frary & Clark Plans To Cut Dealers

NEW YORK CITY—Lee Moss, vacuum cleaner sales manager for Landers, Frary & Clark, said the company wants to reduce the number of its dealers from around 15,000 to 9,000, or 40%.

Moss explained that the plan would be recommended to distributors in a broad, general way. One reason for the move, he said, is that approximately 65% of the company's cleaner volume is being produced by about 25% of its dealers.

A reduction in the number of deal-

(Concluded on Page 25, Column 4)

Union Asbestos & Rubber Purchases Coldmobile

CHICAGO—Purchase of the business of Coldmobile Co., Detroit manufacturer of truck refrigeration units, by Union Asbestos & Rubber Co. has been announced by officials of the company here.

Henry O. Kirkpatrick, founder and president of Coldmobile, has joined Union Asbestos & Rubber as chief engineer of its Dromgold & Glenn Division, which will produce truck units under the Coldmobile trade name in its plant at Cicero, Ill.

(Concluded on Back Page, Column 2)

Admiral Shows Refrigerator Line, 3 Electric Ranges

GALESBURG, Ill.—The 1952 lines of Admiral refrigerators and three new electric ranges were introduced here last week at the company's distributor sales convention.

The refrigerator line includes two models (one 9 and one 11 cu. ft.) with "flash defrosting" which is accomplished in only a few minutes, another with full automatic defrosting, and a "completely new" 12.2-cu. ft. two-door "Dual-Temp"—said to be the largest of its type in the industry.

According to Lee H. D. Baker, vice president-appliances, the "flash defrosting" system has been incorporated in two economy models. Developed by Admiral engineers in the research laboratory here, this feature is operated by pushing a button which activates a heating element

(Concluded on Page 4, Column 5)

Detroit Edison Quits Free Range Wiring

DETROIT—The Detroit Edison Co. has discontinued its free wiring policy on electric ranges as of Jan. 2 and will direct promotional efforts toward increasing dealer sales of electric water heaters and clothes driers, according to Fred A. Compton, vice president.

However, Compton said, all ranges sold prior to Jan. 2 will be installed according to the former policy provided the actual wiring is completed by May 1, 1952. The utility will continue free wiring of electric clothes driers and water heaters, and make a limited contribution to range installations, he pointed out.

Explaining the change in the range-wiring policy, Compton told dealers:

"Since the beginning of our free wiring policy on electric ranges, water heaters, and clothes driers in

(Concluded on Page 2, Column 4)

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NFFLI Offers FTC Aid on Freezer Ads

Suggests Setting Up Industry Conference On Misleading Claims

ELIZABETHTOWN, Pa.—A suggestion that an industry-wide trade practice conference be instituted by the Federal Trade Commission to develop some acceptable and well defined limitations on advertising claims for capacities and freezing abilities of home freezers was recently made to the commission by Robert L. Madeira, executive secretary of the National Frozen Food Locker Institute.

Madiera offered the suggestion to Charles Sweeney, assistant chief of the Division of Investigation, Bureau of Anti-Deceptive Practices of the FTC. Sweeney, it was reported, has been studying the problem of misleading advertising claims by some freezer manufacturers for the past two years. Complaints to the FTC over that period have centered around freezing and storage capacity, performance, and economy claims.

Madiera said that the NFFLI would "gladly do all in its power to assist you in correcting this condition." He emphasized, however, that the NFFLI was offering this assistance and suggestion, not in a spirit of complaint, but in a spirit of helpfulness to improve a business in which institute members are vitally interested.

"Today thousands of locker plants are expanding their businesses rapidly by supplying food and services to hosts of new home freezer owners. Many locker plants are actively promoting the sale of home freezers," Madiera declared in a letter to the FTC covering his suggestions and the institute's attitude on the subject.

"Our concern over these advertising malpractices is the end result," the letter stated. "Many a consumer, disillusioned by his inability to enjoy the benefits that he expected as a result of such advertising, has given up (on frozen foods) as a result."

Madiera's letter was dated Dec. 13. As of Jan. 2, the FTC had neither taken any official action nor commented on the suggestion.

(Concluded on Back Page, Column 1)

RACCA Survey Shows 'High' Cost of Replacing Defective Parts

NEW YORK CITY—A nationwide survey of its membership conducted by the Refrigeration & Air Conditioning Contractors Association indicated there was "an urgent and crying need for relief" from "the heavy burden of uncollectible, additional expenses of the replacing of defective refrigeration equipment and parts," RACCA announced.

The association pointed out that it has been waging a long campaign "to remove from the shoulders of refrigeration and air conditioning contractors" this "burden."

"The survey," the association explained, "was in the form of a pre-

(Concluded on Page 26, Column 4)

Fedders-Quigan Features Mahogany, Blond Cabinets

NEW YORK CITY—Fedders-Quigan Corp. recently introduced its 1952 line of room air conditioners at a regional distributor convention in the Hotel Plaza here.

Principal interest in the new products was their styling. Available for the first time are mahogany and blond wood cabinets for $\frac{1}{2}$, $\frac{3}{4}$, and 1-ton window models and 1-ton and $\frac{1}{2}$ -ton consoles.

Performance features are twin air filters, over-size V-type twin evaporators, "Hi-Lo" controls, and a new

(Concluded on Page 2, Column 5)

Mitchell Window Units Conserve Electric Current

CHICAGO—An air conditioner that will operate on an electrical consumption of less than the current required to light six ordinary electric lamp bulbs is the Mitchell 1952 M-132, $\frac{1}{2}$ -hp. window-type room air conditioner recently announced by E. A. Tracey, vice president in charge of the Air Conditioning Div. of the Mitchell Mfg. Co. here.

First introduced in 1951, the small low-cost unit's economy of operation, according to Tracey, is the result of a design innovation termed "Econo-

(Concluded on Back Page, Column 5)

RCA Residential Air Conditioners--

(Continued from Page 1)

Initial shipments of all models will go forward to distributors during January. It was disclosed by Robert A. Berle, RCA Victor vice president. At that time, he said, the company and its distributors will make the products available in all major market areas.

The RCA air conditioners are designed with simple, clean lines, suitable for any room decor, and are finished in two colors—the cabinets in "pearl beige," and the grilles in "arctic tan."

Compressors in all models are hermetically sealed and spring-mounted. All models are equipped with adjustable grilles which make possible the ready control of air flow and insure draft-free operation.

3 MODELS' SPECIFICATIONS

Model 33, with a $\frac{1}{2}$ -hp. motor, has a capacity of 4,200 B.T.U. per hour for rooms up to 230 sq. ft. and an air-discharge velocity of 470 f.p.m. This unit can remove 1.3 pints of air moisture every hour. It weighs 120 lbs. and the overall dimensions are 13 $\frac{1}{2}$ in. high, 23 $\frac{1}{2}$ in. wide, and 27 in. deep.

Model 50, $\frac{1}{2}$ hp., has a capacity of 6,100 B.T.U. per hour for rooms up to 325 sq. ft. and an air discharge velocity of 560 f.p.m. It can remove 1.75 pints of air moisture every hour. The unit weighs 176 lbs. and is 13 $\frac{1}{2}$ in. high, 27 in. wide, and 27 in. deep.

Model 75, $\frac{3}{4}$ hp., has a capacity of 8,100 B.T.U. per hour for rooms up to 485 sq. ft. and an air discharge velocity rate adjustable from 510

f.p.m. to 76 f.p.m. This model can remove 2.5 pints of air moisture every hour. It weighs 198 lbs. and is 15 $\frac{1}{2}$ in. high, 27 in. wide, and 27 in. deep.

FIRST STEP INTO APPLIANCE FIELD

It was pointed out by Beidel that RCA's entrance into the air conditioning industry marks the company's first step beyond radio, television, and phonograph instruments in the appliance field.

The decision to handle air conditioners was made only after a detailed survey of market conditions and a thorough study of the competitive products in this field, he said.

"The home air conditioning market has scarcely been tapped," he said. "According to reliable surveys, the industry has achieved less than one half of one per cent of its potential."

"One of the principal obstacles in increasing home air conditioner sales has been the lack of adequate installation and service facilities. While some air conditioner manufacturers and distributors have maintained service organizations in some cities, there has been no nationwide organization offering efficient, direct-to-the-consumer service."

"With the facilities of the RCA Service Co. to draw upon, and with its thousands of highly skilled technicians stationed throughout the country, ready to install and service air conditioners, RCA is in a very favorable position to expand the distribution of air conditioners and assume a leading role in the field."

Tennessee Gas Rate Hike May Herald Series of Raises in Home Heating

NEW YORK CITY—Approval by the Federal Power Commission recently of an annual rate increase for the Tennessee Gas Transmission Co. is reported here to herald a series of similar increases for a number of natural gas pipeline companies with resultant increases in natural gas rates for consumers, particularly those using gas for home heating.

This is the first rate increase approved by the FPC for a pipeline system and, industry officials feel, it should speed action on 17 other company applications that have been pending for more than a year.

The increase in this case falls some 40% short of what the company asked for and was reached by compromise without formal hearings, which would have been expensive to the company. It permits the company a 6% return on its investment.

American Central Div. Name Changed To American Kitchens

CONNERSVILLE, Ind. — The American Central Div. of Avco Mfg. Corp. has changed its name to American Kitchens Div. in order to make it identical with the trade name for the products it manufactures. F. F. Duggan, general sales manager of the division, announced recently.

American Kitchens makes steel kitchen cabinets, sinks, and kitchen accessories.



"DEMONSTRATION CENTER" will highlight Fedders room cooler promotion. Series of illuminated color transparencies surrounding an oblong model of the $\frac{1}{2}$ -ton window unit will illustrate advantages of room air conditioners.

Range Wiring--

(Continued from Page 1)

March, 1950, there have been approximately 70,000 electric ranges sold in our service area.

"Sales by dealers were about 67,000 ranges and our own sales about 3,000. We congratulate you on the admirable job you have done."

"You will recall that when we announced the free wiring policy it was to continue until January, 1951. Later we extended this policy on a day-to-day basis."

"Since the desire for electric living starts with the ownership of an electric range, major emphasis has been placed on this appliance since March, 1950."

"We now feel that we have reached a point at which this emphasis should be shifted to the increased sale of electric water heaters and electric clothes driers. Therefore, in the coming months we will be directing our promotional efforts toward increasing your sales of these two appliances."

In a memorandum accompanying the letter, Compton stated that the utility will continue to accept orders for range wirings in existing residential buildings of four families or less served from The Detroit Edison Co. lines at a net charge of \$37.50, including inspection fees.

"Since these charges do not cover the entire cost of the wiring installation," he said, "we will contribute \$3.50 toward any complete wiring installation which includes increase in service size made by a contractor employed by either the dealer or the customer."

"In dwelling units located in commercial buildings, multiple dwellings of more than four families, or where individual dwelling units are not separately metered, the customer must employ his own contractor and The Detroit Edison Co. will contribute \$3.50 under conditions described above."

"This range wiring policy applies to ranges requiring only one outlet. For sectional ranges requiring additional outlets a charge of \$15 will apply for each additional outlet."

"For residential buildings under construction no contribution will be made for the installation of range wiring as this normally requires only a circuit."

Compton said the utility will make all arrangements for wiring upon request, and also assume the billing of the charges in monthly payments over a six-month period.

He noted that Detroit Edison will continue to support dealers in the sales of electric ranges by means of billboard and newspaper advertising, dealer training classes, store demonstrations, display aids, and service on operating parts of electric ranges.

Fedders Room Coolers--

(Continued from Page 1)

type compressor construction which assures quiet operation.

Frank A. Mitchell, sales manager, Unit Air Conditioner Div., presented the new models. He placed 1952 industry sales of room air conditioners at 359,600 and estimated that by 1956 unit sales would exceed 780,000.

"The growth of this industry is so rapid that sales may soon surpass those of domestic refrigerators," he said.

Salvatore Giordano, president, welcomed the more than 200 distributors and distributor salesmen representing markets throughout the eastern states.

Robert E. Cassatt, advertising manager, outlined the 1952 trade and consumer campaigns. He said that consumer messages would appear in major national magazines, newspapers, and on radio and television.

One of the highlights of his sales promotion presentation was the introduction of a unique retail "Demonstration Center," which, through a series of illuminated color transparencies, illustrates the multiple advantages of room air conditioning.

The display contains one of the new blond $\frac{1}{2}$ -ton window units. He indicated that provision has been made for the distribution of 5,000 displays next spring.

Edward M. Becker, Fedders regional sales manager, presented a detailed program for use by salesmen in the education of prospects on the year-round benefits afforded by Fedders air conditioning.

REMCO

"loss eliminators"

Pull-up Profits for You!

CROSS-FLO
Dryer Filters
Eliminate all losses from breakdowns—highest efficiency even at liquid temperatures up to 150°.

E-Z-SEE
Liquid Indicators Eliminate losses from leaking liquid indicators. E-Z to see through, leakproof, perfectly safe.

FROST-TITE
Flare Nuts Eliminate losses from loosened and cracked flare nuts. Ideal for use anywhere in system.

REMCO INCORPORATED
ZELLENFELD, PA.

Inventory Surplus WANTED

We will buy for cash your excess inventories of compressors, motors, belts, fittings, controls, or other equipment. Send details.

HARWOODE EXPORT CO.
438 Lafayette Street
New York 3, N. Y.

MODEL 767. Low and wide, this self-service case can be serviced front or back. Can be joined for endless display.

MODEL 308. Double-doored to double your dairy sales. 12 $\frac{1}{2}$ ft. of refrigerated shelving in 4 ft. of floor space.

MODEL 350S. 9-ft. long wall type display case for self-service display of dairy products and bottled goods.

MODEL 584S. A 65-in. ft. reach-in refrigerator. One of the many popular KOCH self-contained refrigerators.

THE QUALITY REFRIGERATOR LINE

MODEL 3710. An open front self-service display case for pre-packaged fresh meats, garden, or dairy products.

MODEL 3180. An endline top display case made in 7 and 10 ft. lengths, for up to any length for profitable display.

Series 700

Series 800

low and wide

front and back

KOCH SELF-SERVICE DISPLAY CASES

TO lower your sales costs and boost your meat volume, display and price pre-packaged fresh meats in a KOCH Self-Service Display Case. Your customers make their own selection. No time wasted. Less help needed. No slowing-up of the sales force. Merchandise sells itself. There is no better way to show profit.

STREAMLINE your selling by servicing this case from the rear while your customers are buying from the front. You can custom join two or more cases for endless display from 7 to 700 feet.

SELLING is a snap with KOCH Series 700 and 800 cases. They are identical except that Series 800 adds the Salesmaker top, a handsome structure of brilliant lights, sliding plate glass mirrors, and lighted display signs. Both models capture the eye . . . and feature hand level shelves to make it easy to buy. Both models turn just-looking shoppers into eager buyers who ring your register.

KOCH

SINCE 1883

refrigerators, inc.

NORTH KANSAS CITY 16, MO.

SEND THIS COUPON today FOR FULL DETAILS

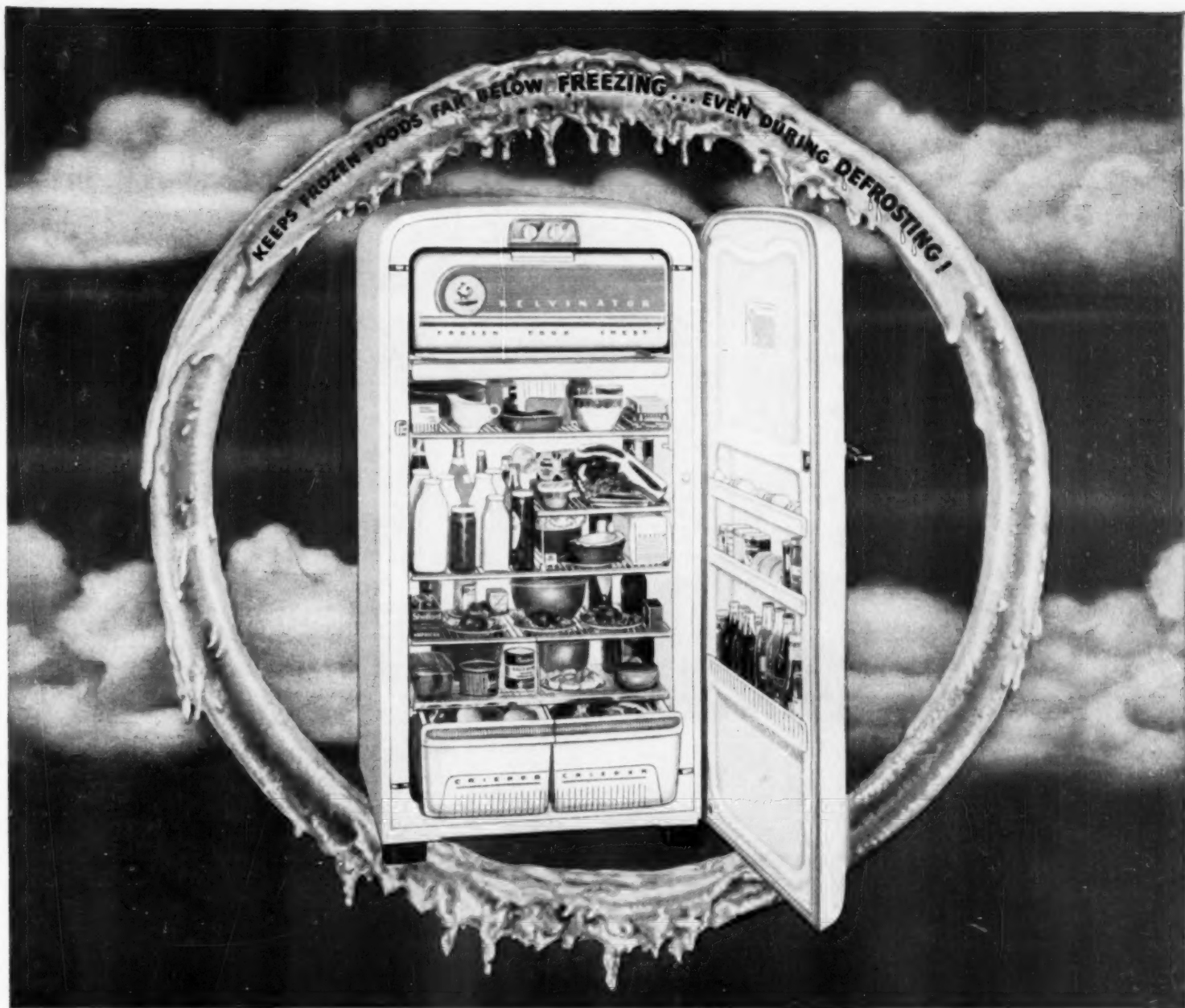
KOCH Refrigerators
North Kansas City 16, Mo. (RN-1)

Please send me at once complete details on your dealer proposition. I understand several attractive territories are available.

Name _____

Address _____

City _____ Zone _____ State _____



It's Here! The New "MAGIC CYCLE"* Kelvinator!

COMPLETELY NEW, completely different, completely revolutionary, the new "Magic Cycle" Kelvinator is utterly unlike previous concepts of automatic defrosting refrigerators. It uses no added electric heating elements. It operates by a simple . . . yet sensational . . . variation of the normal functioning of the refrigeration cycle.

Kelvinator's "Magic Cycle" automatic defrosting is faster, more economical, safer than *all* others. It is a great new basic development in refrigeration that will be an *exclusive* for Kelvinator retailers.

Here is the greatest engineering achievement since Kelvinator

originated the full length door, cold-clear-to-the-floor refrigerator in 1948 . . . today the most imitated design in the industry. Here is a basic contribution to the science of refrigeration . . . an exciting achievement that will create striking new awareness of Kelvinator leadership . . . tremendous, nation-wide demand by customers . . . profitable sales for Kelvinator dealers.

Yes, here is the "Magic Cycle" Kelvinator . . . new and thrilling proof that the Kelvinator franchise is the most valuable franchise in the appliance industry.

*Patent applied for.

THERE IS A BETTER REFRIGERATOR . . .

IT'S **Kelvinator**

THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY
ELECTRIC REFRIGERATORS... RANGES... FREEZERS... WATER HEATERS... AIR DRIERS

KELVINATOR • DIVISION OF NASH-KELVINATOR CORPORATION • DETROIT 32, MICHIGAN

Black, Sivalis & Bryson Opens San Francisco Office

KANSAS CITY, Mo. — Henry A. Bryson, Jr., vice president and general sales manager of Black, Sivalis & Bryson, Inc., has announced the opening of another new California sales office at San Francisco.

Announcement was recently made of the opening of a Los Angeles office.

Rosa Baze, West Coast sales manager, Los Angeles, will be in charge of the San Francisco office, locally assisted by Warren J. May, sales engineer.

The San Francisco office is at 55 New Montgomery St., telephone YUkon 1-1062.

Eastern Refrigerator Mfrs. Assn. Elects New Officers

NEW YORK CITY — Milton Schwartz was elected president of the Eastern Refrigerator Manufacturers' Association, Inc., at the group's annual meeting held here recently.

Other new officers are Charles Haffa, vice president, and Julius Anolik, secretary-treasurer.

The board of directors includes Bernard Clark, Joseph Colonese, John Poth, Irving Rubinfeld, and Abe Schreckinger. Barney Berch and Albert Dwyer are on the advisory board.

JUST ASK US!

Turn to "What's New" Page for useful information on new products

To Penetrate 'Iron Curtain' Coast Guard Ship 'Courier' To Be Weather Conditioned For 'Voice of America' Duty

NEW YORK CITY — The Coast Guard cutter *Courier* will soon join the battle of words in the cold war as a mobile, all-weather relay station for Voice of America radio broadcasts originating in the United States.

Penetration of the "Iron Curtain" in all-weather conditions will be made feasible by an air conditioning system developed by Philip L. Rhodes, naval architect, in collaboration with Minneapolis-Honeywell engineers.

But for the new, pneumatically-controlled cooling device, operations would have to be halted during heavy weather because large ventilation openings on the ship must be closed, trapping the immense heat generated by the transmitting equipment and making the transmitting room unbearably hot.

The *U.S.C.G.C. Courier* is now being de-mothballed at Hoboken, N. J., according to George Q. Herrick, chief of facilities for the State Department's Office of International Broadcasting.

He states the vessel will contain the most powerful transmitting equipment ever used on a ship, and when it is in operation overseas it will be able to vary its position at will, forcing constant relocation of Soviet Russian jamming stations and thereby increasing the effectiveness of "Voice" broadcasts.

Admiral Line -

(Concluded from Page 1, Column 4) under the coils. It will "completely melt average accumulations of frost in from 7 to 10 minutes," it is claimed.

Baker said the 1952 line is the most complete ever shown by the company, and added that the 12 new models range from 7 to 12 cu. ft. in size.

There are three conventional models in each of the 7, 9, and 11-ft. sizes, and three Dual-Temps with separate controls for the full width freezer and the moist cold food compartment.

The new two-door Dual-Temp, which has a total storage capacity of 12.2 cu. ft., is only 6 in. wider and 9 in. higher than a 7.3-cu. ft. refrigerator, smallest of the new models, Baker pointed out.

Seventy-seven pounds of frozen foods can be stored in its separate home freezer and in the new freezer door-shelf which has ample room for additional frozen juices or packaged vegetables, it was stated.

The unit has a glacier blue interior with gold color trim on the shelves, a butter conditioner, and an ultra-violet lamp to retard the growth of bacteria and mold, and eliminate mingling of food odors.

Another new development announced at the meeting is a "completely automatic" defrosting system in model 1182. This system, the company said, permits defrosting either day or night—whenever necessary—and automatically disposes of excess moisture.

Admiral also introduced an 11-ft. Dual-Temp with an all-white interior and gold shelf trim to supplement a



HOUSEWIFE shown here is "painting" barbecue sauce on spareribs as they are turning automatically on the rotary roaster of this new 1952 Admiral electric range. The self-basting unit can be used to roast a 16-lb. turkey or goose, barbecue chickens, prepare Shish Kebab, and other unusual foods. It can be attached to the oven rack of any Admiral range in a moment.

RELIEF FROM defrosting is provided by flash defrosting, introduced on two 1952 Admiral refrigerators. All you do is push a button which activates a heating element under the freezing coils and melts frost accumulations in from 7 to 10 minutes.



similar unit with glacier blue interior.

All refrigerators have been restyled for 1952 with new hardware, nameplate, shelf trim, and evaporator doors, Baker said.

Over 800 distributors and their staffs from all 48 states, Canada, Brazil, Cuba, Mexico, Portugal, Turkey, India, and Italy arrived in Galesburg from Chicago aboard two special Burlington trains to visit Admiral's Midwest Mfg. Corp. subsidiary and see the new refrigerators in production.

On two of the three new electric ranges, the heat in surface units and in ovens "can be dialed as easily as turning the brightness knob on a television set," Baker declared. He said each 1952 Admiral range can accommodate the company's self-basting rotary roaster, which enables housewives to roast a whole turkey or goose, barbecue chicken or spareribs, prepare Shish Kebab, and other unusual foods.

The rotary roaster spit, redesigned to simplify its attachment to and from the oven rack, automatically makes 2½ revolutions a minute and requires no attention after the switch is turned on.

Baker said oven racks in all models have been redesigned to provide a hand grip at the front for adjusting

them. The racks can be placed in 14 different positions, he pointed out, but they cannot tip forward.

In addition, Admiral engineers have incorporated a new, extra high speed Hot-Spot unit in the left front position on the range surface to make it more convenient for the user.

The pull-button automatic timer clock—designed to simplify automatic cooking—starts, times, and stops either oven in the twin-oven deluxe model W-3.

A new type interval timer will be used on the 1952 line to provide greater accuracy and flexibility of operation. According to Baker, this timer can be set to time any cooking period from 30 seconds to 15 minutes in ¼ minute intervals, and from 15 to 90 minutes in 2½ minute intervals. A warning buzzer is activated when the cooking time is up and continues until turned off.

All Admiral ranges have an appearance outlet.

The 1952 models "pre-heat the oven automatically and speedily to baking or roasting temperatures, then cut back to the temperature selected," Baker said. He added that in laboratory tests the oven was found to use current only about one-quarter of the time it was in operation.

What do you expect
from the tube you buy?

This question—not as naive as it seems—directs your attention to a very important consideration: the necessity for conserving, as much as you can, whatever material you now have—particularly copper tubing.

As you know, all metals are in short supply. You must endeavor not only to protect your present installations, but also be more critical in the selection of any new supplies you contemplate buying.

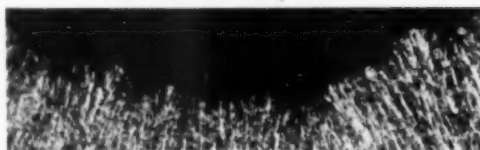
By specifying Wolverine in your purchases of copper and copper base alloy tubing, or for your fabricated tubular parts, you will assure yourself of long, continuous dependable service; and meanwhile also help the national preparedness program. Furthermore, you will relieve yourself of many worries induced by unwarranted breakdowns and replacements.

Examine the three photomicrographs here which show a comparison of the relative construction and surfaces of different tubes. You can readily detect the very smooth surface shown in Specimen C (Wolverine tube) which obviously provides for a smooth flow of liquids and gases.

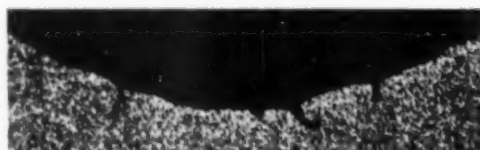
Wherever you need copper tubing, use Wolverine—the tube that is quality-controlled from ore to finished product—to give you the kind of service you expect. WOLVERINE TUBE DIVISION, Calumet & Hecla Consolidated Copper Company, Incorporated, Manufacturers of Seamless Non-ferrous Tubing, 1413 CENTRAL AVENUE, DETROIT 9, MICHIGAN.

Which is
WOLVERINE TUBE?

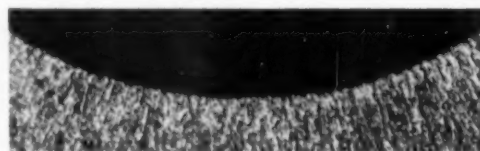
All 200X Magnification



SPECIMEN A—Note roughness of bore.



SPECIMEN B—Overlap defect.



SPECIMEN C—Smoothness.

Lovely to Look at... So Wonderful to Own



HOLIDAY DINNERS EASY—baked and prepared weeks ahead and frozen in the BEN-HUR. That's only one of many reasons families enjoy the food-saving BEN-HUR.

The New "R.O.P." BEN-HUR is today's easiest-selling freezer. There are many reasons—including today's more powerful point-of-sale dealer help program. Ask about it! (*Record Of Performance)

BEN-HUR MFG. CO. • Dept. AC — 634 E. Keefe Avenue • Milwaukee 12, Wisconsin

BEN-HUR FARM and HOME FREEZERS

HEALTHFUL LIVING THROUGH FROZEN FOODS

Sales Offices in Principal Cities

Plants in Detroit, Mich. and Decatur, Ala.

Wolverine Mill Depots:

DETROIT, MICH. • DECATUR, ALA. • HOUSTON, TEXAS • LOS ANGELES, CALIF.
LONG ISLAND CITY, N. Y. • PHILADELPHIA, PA. • PROVIDENCE, R. I. • ST. LOUIS, MO.

Export Department, 15 E. 40th St., New York City 14, N.Y.

*Just wait
till you see the*

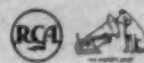
**RCA ROOM
AIR CONDITIONER**



YOU ARE IN FOR A PLEASANT SURPRISE
... about a product and a merchandising plan that will open an entire new field of sales and profit for you. Your RCA Victor Distributor

will tell you when he will have the first showing of this, the final word in room air conditioning. He'll tell you of the greatest sales opportunity since TV. It won't be long, now!

RCA Victor
Division of Radio Corporation of America



INSIDE DOPE

by GEORGE F. TAUBENECK

(Continued from Page 1, Column 1) of Living never would have eventuated.

The producers in our country, fortunately, haven't been modest. They expect to gain by tooting their own horns, to be sure; but they are harbingers of Progress and contributors to a Better Life, also. They know that, and they tell why—unashamedly and often blatantly. (L.S. M.T.)

We're lucky that they do. Illustration:

After studying advertisements for furniture, floor coverings, drapes, home appliances, paint, heating systems, chinaware, silver dinguses, etc., American brides go out and buy.

If they don't collect precious fold-ers along with their wedding ring, they tuck their panting new husbands until they do get whatever they want.

They don't know what they want for their dream-apartments or Quonset Huts until they study these advertisements and—later—listen to the urgings of house-to-house salesmen. But as soon as their acquisitive instincts are titillated by salesmanship-in-print and selling-in-person, they can't be denied. Their husbands came across "or else." So the husbands buckle down and produce more, if they can, and the entire nation benefits.

Advertising and specialty selling, in consequence, have elevated housewifery and housekeeping from ultra-drudgery to ultra-leisure. Automatic devices for washing clothes and dishes, for home cleaning, etc., are enjoying an unprecedented vogue. Today's beautiful brides hold the weekly paychecks, and they buy useful home appliances because they intend to preserve their beauty by not working so hard as their mothers did.

And "tell all" advertisements have enabled family purchasing agents (the women, we mean) to specify exactly those aids to comfortable living they need, want, and will buy.

Incidentally, these "selfish" advertising and merchandising programs have employed millions of wage-earners, accelerated the velocity of money circulation, accreted capital formation, and boosted America's dominance of the world scene.

Again we ask: Is that bad?

Gay Advertising

Women are more emotional than men. Everybody knows that. And so advertisers to the feminine purchasing agents of the world shouldn't be blamed for couching their sales appeals in terms of fragrant, exciting, romantic lures and yens.

When they name a perfume "Fascination," or when they sell soap chips on the appeal of "soft hands," they're on solid ground.

Women love to be intrigued—especially by a hint of unexpected Romance. If they are assured that donning "Sinful" nail polish may capture for their very own a tall-dark-and-handsome stranger, they'll

buy it and plaster it on all 20 of their cuticles. (And then the nail polish manufacturer hires more "help.")

Does emotional advertising pay? You're darned right it does! And it makes millions of people happier. It lifts them out of dull, deadly routine, gives them new means of appreciating themselves, creates desires which make them work harder and, in the process, stimulates the economy. It pets emotions, evokes them, and keeps things moving at a rapid rate. And the nation moves onward and upward as a result.

This Is True, Too

All Americans like to laugh. We go for funny stories, and we appreciate a witty retort. But we're bored by dull statistics and factual statements.

In other words, we want to be entertained, rather than preached at, before we purchase.

We buy gallons of cod-liver-oil vitamin concentrates when we:

(1) Understand that they are "good for us" (advertising implants that idea); and

(2) Are entertained by the vitamin salesmen who keep us laughing (over the radio, in print, or personally).

"Popeye" sold the idea of swallowing unpalatable spinach to millions of children who read the comic-strips. Mothers and pediatricians never could have made kids eat spinach through learned pronouncements or forced prescriptions. But "Popeye" did. He put on a show. He entertained. He made 'em laugh.

Imaginative advertising makes the world go 'round and 'round. Quite possibly it's the greatest contribution

to Happiness and Peace which Americans have ever dreamed up, produced, and synthesized.

The Golden Goose

That Pioneer Spirit which gestated America the Wonderful is in hiding today. It's dormant, because Planners have scared the hell out of investors.

Pioneering is rugged competition. It's the reverse of socialism, which abhors competition. (Thorstein Veblen, the mentor of Harold Laski and the inspirer of Stuart Chase—both of whom influenced F. D. Roosevelt—gave "C" grades to all students at Columbia. The brilliant were flummoxed with the dummies in Veblen's grading system. Isn't that significant?)

When potential winners know that they will be robbed of their winnings—and degraded publicly at the same time—they won't race for a prize. What's the use? Why bother? When all students are graded alike, nobody studies—and the world loses scholars and inventors and creators, to the detriment of the entire body politic.

Penalties for pioneering today are assessed by the tax system. If you lose your investment in a new venture, you've lost it, that's all. If you succeed and make money, the Bureau of Internal Revenue takes most of it away from you. So why venture?

Judicious recasting of our income tax laws might revive the will-to-win of natural competitors and imaginative potential pioneers. Here's why:

An idea and energy and enthusiasm are but three legs to the stool of a new enterprise; the fourth—and the leg that often isn't there—is capital.

Where is that fourth leg to be located? From small savers? No. Their dollars go into bank accounts and insurance. From wealthy savers? No. Because of the confiscatory tax rate take in the highest income brackets, and because "nothing is so scared as a million dollars," their funds are invested in tax exempt or "gilt edge" securities.

Traditionally and universally it has been the "upper middle class" which provides risk money. It's significant, in this connection, that the first step of Communists when they seize power is to liquidate the bourgeoisie (middle class).

Income taxes syphon off so large a share of the earnings of the very

men who could pioneer today—the salaried managers of corporations, the men who have the know-how, energy, and personality—that few Walter Chryslers or Charlie Nashes can quit their highly paid jobs to establish new enterprises. They just don't have the money, even though their incomes before taxes are large.

In small towns the lawyers and doctors used to invest their savings in small factories or local mercantile ventures. By so doing they helped speed bright young men on their way to success, and they enlarged the capital structures and total wage-payments of their communities. They can't do that any more. They simply don't have enough cash left (after taxes) to invest in the growth of their home towns, or in America's future.

And that's a sad state of affairs. By revising our income tax laws to allow energetic managers and professional men to retain a larger portion of their earnings for investment in projects they can put their hearts into, tremendous forces and energies will be released.

When allowed to save money, these darters can supply the modest beginning capital they need to start new undertakings of their own conceiving. And that will pay off for everyone.

Let's do something about it—and quickly!

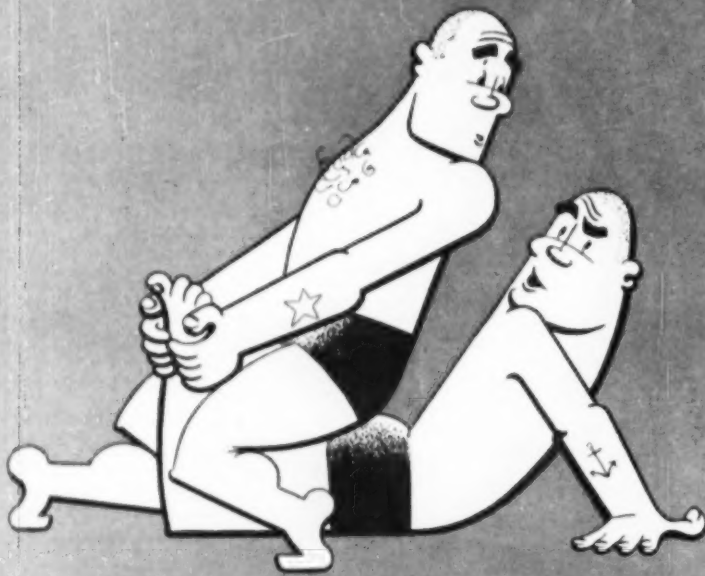
Stores More in
Less Space...
Cools Faster!

Speed-Freeze

bottle beverage
coolers

write

IDEAL COOLER CORPORATION
2953 EASTON AVE., ST. LOUIS 6, MO



IT'S MUCH EASIER BENDING

DRYSEAL

REFRIGERATION TUBE

● There's no need to pull and haul when you work with dead-soft Dryseal. It is bent with the hands with little effort. It is this soft temper and its ductility that make it easy to flare for compression fittings without splitting.

Another very important feature of Dryseal is the double-cripp seal at each end of the tube. This is done in the manufacturing and keeps dirt and

moisture from entering the tube. The seal is made in such a way as not to change the diameter of the tube so that it can pass through any opening large enough for the tube itself.

And, for your greater convenience we have just recently brought out Dryseal in a fifty-50 one-coil carton. This carton, which has been attractively designed for easy identification in stock, contains one 50-foot coil of Dryseal... is easier to handle, light weight, economical.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

250 Park Avenue, New York 17, N. Y.

Mills, Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.; Sales Offices in Principal Cities. Distributors Everywhere

SEE "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

RIGHT DOWN THE LINE

There are "specific-fit" replacement units for more than one thousand different refrigerator models in the Cutler-Hammer Line



9502N187 C-H "specific-fit" for Norge 1932-33 models



9521N05 C-H "specific-fit" for Copeland 1939 models



9502N417 C-H "specific-fit" for Briggs 1937 models



9521N11 C-H "specific-fit" for Leonard 1937 models



9525N107 C-H "specific-fit" for Cronley 1940-50 models

Busy service men are standardizing on Cutler-Hammer replacement controls. No "modifying," no fussing, no delays when you answer service calls with C-H "specific-fit" replacement control units. You take out the old, put in the new... and you are through! It's the easy, sure way to do the job right because Cutler-Hammer has manufactured such "specific-fit" units for more than 1,000 models of refrigerators built since 1925. And you'll also quickly see how the widely-known Cutler-Hammer name (advertised in The Saturday Evening Post, Time, Newsweek, American Home, Better Homes & Gardens, House & Garden, etc.) builds customer confidence and good will. The C-H refrigeration control catalog, as well as the items you need, are available through your authorized C-H refrigeration wholesaler. Do not forget, this C-H refrigeration control line includes the popular general purpose two-button replacement unit (Type 9502) which incorporates dependable motor overload protection. CUTLER-HAMMER, Inc., 1362 St. Paul Avenue, Milwaukee 1, Wisconsin.

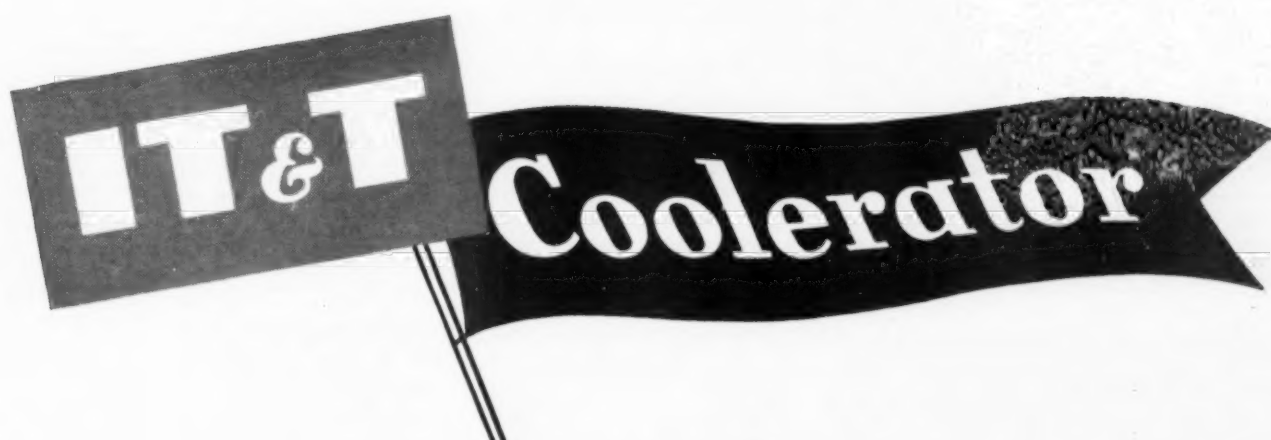
Here are just a few of the "specific-fit" replacement controls in the unequalled Cutler-Hammer line.



Featured by Cutler-Hammer refrigeration wholesalers and recommended by alert service dealers from coast to coast.



Here's how DEALERS WILL PROFIT from the new



association

THEY WILL PROFIT through the new strong alliance of the world-famed International Telephone and Telegraph Corporation and the pioneer Coolerator Company.

THEY WILL PROFIT by the remodeling, expansion and modernizing of Coolerator's plant facilities.

THEY WILL PROFIT by the styling-up and improving of Coolerator's line of refrigerators, ranges and freezers.

THEY WILL PROFIT by the current program, backed by both IT&T and Coolerator, of strong national advertising, sales promotion and merchandising.

For full details on Coolerator appliances, see your local Coolerator distributor or write today to The Coolerator Company, Duluth 1, Minn.

Ask about a Coolerator franchise now!

IT&T



INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION
67 Broad Street, New York, N. Y.

Watch for the new 4-color advertising in
February and March in:



Old Lure Pulls

'Let's Swap' Promotion Nets New Orleans Dealer 110 Phone Calls In Day

NEW ORLEANS, La.—A clever stunt which attracted the attention of the entire city was staged by the C. T. Blachette Co., appliance dealer here, during late August, when the store started advertising on a "let's swap" platform.

Customers interested in new appliances were invited to bring in practically anything in the household they no longer wanted, to apply to something desirable.

There were "no strings whatever" to the offer, according to C. G. Staute, president of the firm.

"We simply had a lot of fun and got much publicity," he indicated.

"We got more than 110 phone calls on the first day. We made good on the offer by allowing one woman to trade in a home freezer on another appliance, taking in some canning equipment on a refrigerator, and trading in an antique washer and gas heater on a new electric range."

Staute duly appraised the value of every item brought in, whether it was an old-fashioned pot-belly iron stove, a set of harness, a lot of jewelry, etc. Full credit was duly given on the purchase of any new appliance.

JUST ASK US!

Turn to "What's New" Page for useful information on new products.

Farmers 'Buy', They Are Not 'Sold', Survey Finds

NEW YORK CITY—Nearly 80% of farm families bought major electrical appliances during the last five years and 90% of these made the initial overture themselves. These facts were revealed by a joint survey made by the National Electrical Manufacturers Association's Farm Electrification Bureau and the Curtis Publishing Co. who queried 2,000 farm families about their buying habits.

Nearly 33% bought a refrigerator, 21% a range, 20% a washer, 17% a freezer, and 17% a water heater. More than half of the appliances were bought from an appliance dealer or hardware dealer nearest home.

When asked why they chose this particular dealer 55% said because "he carries preferred brands"; another 39% cited service; 36% gave "past business dealings" as their reason; and "reputation" accounted for 35%.

However, it was the farmer himself, and not the dealer who initiated the transaction. Solicitation by the retailer was by mail, if at all. Ninety-four per cent said that they had received no phone solicitation and 72% no personal call.

Farm families were almost unanimous in their decision that the retailers from whom they made purchases were thoroughly familiar with the products and were adequately equipped to handle their needs. They also agreed that most dealers were doing a good job of servicing appliances and farm equipment.

Appliance Mfrs. Issue Weather Report for 1952**NEMA Forecasters Find Sales Prospects Cloudy**

NEW YORK CITY—Total sales of electrical appliances, machinery, and equipment in 1952 will taper off only slightly from the all time sales peak of \$12 billion set in 1951, according to a statement by W. J. Donald, managing director, and A. J. Nesti, chief statistician, National Electrical Manufacturers Association.

"However," the statement said, "the electrical manufacturing industry, like all other industries, will produce in 1952 only those products that the mixed defense and non-defense economy will permit; for global defense planning and most government controls, together with the high taxes necessary to finance both, are likely to continue at least through the coming year."

"Total business in the industry is expected to continue at a high level—but dislocations in the various branches of the industry will probably be greater than during the past year."

TO BE LIKE LATE '51

"In fact, for strictly electrical products, 1952 will be more like the latter part of 1951. During that period the effects of material shortages, increased defense production, tightening of some governmental controls, loosening of other governmental controls, and new increases in Federal taxes of all kinds, combined to create serious declines in those branches of the industry pro-

ducing electrical appliances, illuminating equipment, and electrical building equipment and supplies.

"The industry as a whole shipped a greater volume of electrical products in 1951 than at any other time in its history, with total sales exceeding 1950, the previous peak, by 20%, reaching a total volume of more than \$12 billion."

"Even allowing for the factor of inflation, this represents a considerable gain. And, to this, there must be added an unknown but appreciable volume of output of non-electrical products in order to appreciate more fully the industry's entire productive effort."

"Industrial apparatus, such as motors, welding equipment, industrial controls, etc., increased sharply over 1950 with shipments as much as 50% greater."

Sales of insulating materials, like mica, porcelain, laminated products, vulcanized fiber, etc., were 40% higher; and generation, transmission, and distribution equipment volume was one third higher than in 1950.

APPLIANCE SALES 10% UNDER '50

"Sales of electrical appliances, on the other hand, which for the first six months of 1951 were 10% above the sales for the same period in 1950, were, for the entire year 1951, 10% less than 1950 sales."

"This reversal of trend was due largely to the severe decline in sales of refrigerators during the last few months of the year. Sales of this item for the first half of 1951 equalled the sales for the first half of 1950. However, the sales for the entire year 1951 were 30% less than the 1950 sales, indicating the heavy drop in sales during the last half of the year."

"Manufacturers of some of the newer appliances, like food waste disposers, dishwashers, and freezers, experienced heavy gains, and bolstered the general appliance picture."

"Illuminating equipment, exclusive of residential lighting, showed an over-all increase in sales in 1951 or 40% over 1950. However, this increase stood at 70% for the first half of the year as compared with the first half of 1950, illustrating the decline during the latter months of 1951."

"Similarly, while electrical building equipment and supplies, including such items as panelboards, fuses, wiring devices, etc., experienced an increase in sales in 1951 of 50% over 1950 sales, the latter months of 1951 showed a growing decline in new business."

"These adverse trends are accentuated as we look into 1952. It is expected that sales of electrical products in total will drop off about 5% from the 1951 volume. Sales volumes will remain about the same or slightly higher for industrial apparatus, insulating materials, insulated wire and cable, and generation, transmission, and various types of distribution equipment."

10-25% DROP SEEN IN '52

"All appliances, with the exception only of appliances of the commercial type, are expected to suffer a drop in sales varying between 10% and 25% from 1951, with an average drop of approximately 15%."

"Illuminating equipment is expected to fall off in sales by approximately 20%, and sales of electrical building equipment and supplies are expected to drop off 15% during 1952."

"Automatic temperature controls and specialty transformers which registered appreciable increases in business during 1951 are also expected to show declines in sales for 1952 amounting to approximately 10% from 1951 volumes."

"And so the industry looks forward to 1952 with serious questions before it... questions as to whether the soft spots in the production picture for electrical goods during 1952 will be overcome by the placement of new defense orders."

"In other words, the industry is concerned about questions as to whether those in government responsible for determining the pattern of business will be realistic and prompt enough in their planning to utilize the machines, trained manpower, and expert management available in the industry with a minimum amount of disruption of industrial activity."

GAMA Head Predicts Fair Selling Weather

NEW YORK CITY—An increase in the number of residential gas users during the past year holds the promise of fair selling weather for additional domestic gas appliances in 1952, said Louis Ruthenburg, president of the Gas Appliance Manufacturers Association, in a year-end forecast.

Other favorable factors he listed are the vast extension of the natural gas pipeline system and the increased popularity of bottled propane and butane gas in rural and suburban areas.

The GAMA president qualified his optimism by saying that materials shortages or reduced allocations might make it impossible for gas appliance manufacturers to meet all demands.

The number of residential gas customers reached the all-time high of 29,662,000 in 1951, Ruthenburg said, but the sale of most types of gas appliances fell off substantially from the record-breaking figures of 1950.

He revealed that sales of gas home-heating units suffered the greatest drop from more than a million in 1950 to 610,000 in 1951. This slump was attributed largely to the lack of steel for pipeline expansion rather than to appliance production difficulties or sales deficiencies.

DON'T COMPARE '51 WITH '50

Ruthenburg said the present position of the industry can be better judged if viewed in relation to its achievements over the past 15 years rather than in relation to the unusually active "Korea year" of 1950.

He said the 610,000 gas heating installations totaled eight times the 1936-40 average, nearly three times the pre-war high of 206,500, and represented an increase of 30% over the 1946-1949 average.

Range sales, he said, dropped from 3,023,000 to 2,400,000—"still nearly a million more than were being sold annually from 1936 to 1940, and 6% above the 1946-1949 yearly average."

Automatic water heater sales fell from 1950's all-time high of 2,363,000 to 2,000,000. Here again, Ruthenburg pointed out that 1951 sales were five times the 1936-40 average, two and one-half times the pre-war high for one year of 800,000 achieved in 1941.

WHAT CAN BE DONE

The GAMA president summarized the expectations of manufacturers of various types of gas appliances and equipment, basing the predictions on the assumption that allocations of metals would remain fairly constant through the first half of 1952.

Gas heating manufacturers should be able to meet the demand of new housing and modernization, he said. There will be some product simplification, but it will not impair efficiency, he added.

Since automatic gas water heaters use very critical copper, monel metal, and steel, all models will not be available to meet the demand, he predicted, but said manufacturers might conserve by concentrating on larger sizes, which would be in line with the trend of public demand.

Gas range production will probably be adequate, Ruthenburg said, and there will be opportunities to profit by strong promotional efforts.

He predicted that it would be impossible for producers of gas clothes driers to keep pace with the rapidly increasing demand, and said manufacturers of gas incinerators may find it difficult to match orders with production.

The removal of the excise tax on commercial gas cooking equipment is expected to stimulate orders on the part of hotels, restaurants, and institutions, Ruthenburg revealed. Production will be adequate, but military demands may cause some delays.

AIRO stands for

- Fast, dependable, world-wide service.
- Refrigeration and Air Conditioning parts and supplies.
- Write for current Catalog

AIRO SUPPLY CO.
2732 N. Ashland Ave., Chicago 14, Ill.

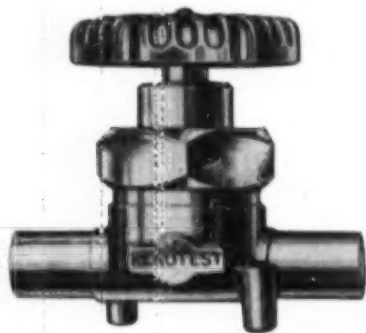
Where Quality Counts Most—

Kerotest

Chosen
FOR AMERICA'S
NEWEST
SUPER-LINER



S.S. United States, mighty new flagship of the United States Lines, will be the largest completely air conditioned ship in the world when fully commissioned in mid-1952.



Kerotest Valves and Fittings have proved again their leadership by being chosen for the newest and largest ship air conditioning system afloat! Yes, on the S.S. UNITED STATES, new 51,500-ton luxury ship, KEROTEST Valves and Fittings will help assure year-around and world-around air conditioned comfort as a part of the York Corporation installation. Chosen for such unusual and critical service, Kerotest Valves and Fittings must be your logical choice for quality and dependability, too!

Always Extra Value at

No Extra Cost

KEROTEST

KEROTEST MANUFACTURING CO.

PITTSBURGH 22, PENNSYLVANIA

Maximum Realism In Commercial Refrigeration Display Helps Prospect See What Equipment Will Do for Him

ST. LOUIS — Getting maximum "realism" into displays of commercial refrigeration equipment through use of artificial foods is one of the promotional ideas that have kept sales at a high level for United Refrigeration Sales Co. here.

Conrad Phillips, head of the Tyler dealership, initiated the practice some time ago when he decided that if it had helped sell domestic refrigerators, it should work out as well with commercial units.

Since then, United has kept cases in its showroom filled with colorful artificial produce, meats, dairy products, soft drinks, and other items. Object is to make the cases look just like they would in retail food store, thus increasing their saleability, according to Phillips.

"When we have a store-owner prospect in the showroom, he is interested primarily in what the case will do for him in the way of increasing his own profits, balanced against what it will cost," Phillips said. "If he can more readily visualize the case on display, and grasp at sight how much its total capacity is and how easily it may be loaded and unloaded, a large part of our selling job is done for us."

Merely asking a grocery store owner, for example, to reach into an open self-service wall case and remove a bottle of milk from the rear row, or a package of cheese from the remotest corner of the top shelf, is infinitely better than reams of literature, or thousands of words of description by salesmen, Phillips believes.

'LETTING THEM FEEL THE GOODS'

"Stocking our cases in this way is much akin to the old retail drygoods store policy of 'letting them feel the goods,'" he pointed out. "We have discovered through practical experience that once a prospect begins moving food products around inside the cases and experimenting with displays, we have already sold him."

United has a stock of more than \$200 in artificial foods, including cartons of almost every food product sold under refrigeration, a great many frozen foods packages, case after case of beverages, and cases of canned beer.

Many of the refrigerators on display are kept in operation, so that the "blanket cold" factor can be more readily explained.

No. 1 on the list of United's merchandising activities has been a program of "photographic advertising," with at least one display advertisement appearing each month in St. Louis newspapers.

BELIEVES IN NEWSPAPER ADS

Phillips disagrees with the theory that newspaper advertising does not benefit the commercial dealer because so few prospects are likely to read it. Instead, he utilizes before-and-after photographs of markets and stores to illustrate the difference in their appearance with self-service refrigerated cases. Figures on how sales increased are included in the advertisements.

The number of grocery store owners who have telephoned the company after seeing such an advertisement is a source of pride with United. So all installations are now being photographed for future reference.

Direct mail, too, plays its part in United's promotional setup, but mailings are not sent out promiscuously. Each week, every salesman turns in a complete list of prospects who are currently being worked on. Then this list is broken down by the advertising office and used as a basis for a properly-balanced direct-mail program.

Another effective practice is to

send to all stores within five blocks of a location in which new Tyler equipment has been installed, a descriptive letter, photographs of the installation, and booklets detailing what can be accomplished for the store.

"We are simply following the old 'neighborhood party' idea," Phillips explained. "Like the appliance dealer who invites the neighbors in to see a new washing machine or refrigerator just installed in a home, we immediately let every other storekeeper in the area of a new installation know about it. Surprisingly often, the 'keep-up-with-the-Jones' angle comes into play."

United has also found it good business to run a "sale" quarterly in which mark-down prices on last-year's boxes or slow-movers are featured. These "close-out" sales are watched for by many retailers in the St. Louis area, and produce good results.

"Our biggest problem has been the stubborn resistance of meat cutters and butchers unions to self-service meat sales in the St. Louis area," Phillips summed up. "We are beginning to make inroads on this, however, due to the fact that numerous retail stores are now showing all smoked meats, luncheon meats, and other such specialties on a self-service basis."

"Whenever possible, we urge retailers to run a special on chuck roast, pork chops, or some other fast-moving meat, for one day to test the self-service box. Usually the retailer is pleasantly surprised at the acceleration in turnover, and we then encourage him to try two specials. Eventually, we will win him over to exclusive self-service retailing of his meats, which normally will mean additional case sales for us."

All of the firm's salesmen are given separate territories in the St. Louis area, extending out over a



United Refrigeration Sales Co.'s Realistic Display.

radius of 100 miles. Each man receives full credit and commission on each sale which originates in his territory, whether he personally closed the deal or not.

These "protected territories" are much prized by United's men. Due to a relatively higher income produced, salesmen turnover is minimized.

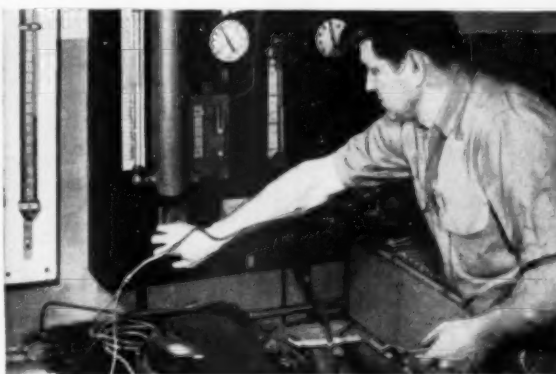
HOW TO GET THE MOST OUT OF SUNISO REFRIGERATION OILS



SUNISO OIL comes to you clean and dry—less than 20 parts of moisture per million parts of oil. Keep it that way for best results. Pry off the airtight seal with clean tools. Replace the cap immediately after drawing off the oil, thus keeping the remainder from absorbing moisture from the atmosphere.



CHARGING COMPRESSORS sometimes calls for a funnel or a piece of tubing; make sure they're really clean. A little dirt can do a lot of damage to closely machined and fitted parts. If you suspect you've gotten dirt into the oil, discard it. Your reputation is worth more than a can of oil.



IN CHARGING HERMETICS, the only way you can do an exact and thorough job is to use a well-designed charging board. Proper maintenance of this equipment is important. To be sure of getting the long, trouble-free service for which hermetics are noted, keep supply tank, tubing and valves as clean as you possibly can.



INSTALL A DRIER whenever you have reason to believe the oil or the system has picked up moisture. Frozen moisture can clog capillaries, expansion valves and other important parts. Properly installed, a silica gel drier—like this one being connected to a domestic unit—is highly efficient. It can save you many a service call-back.

Johnston Refrigeration of Detroit, where these pictures were taken, has used Suniso exclusively for 14 years. The shop foreman says that, unlike some of their competitors using other oils, they have never had wax or sludge problems. Many of the units Johnston services have not had to be recharged in over 12 years. And some of the boxes they service run constantly at -35F. For a free booklet describing the various grades of Suniso Refrigeration Oils, call the nearest Sun Office or write to Department RN-6.

SUNISO REFRIGERATION OILS

SUN OIL COMPANY, PHILADELPHIA 3, PA. • SUN OIL COMPANY, LTD., TORONTO AND MONTREAL



Curtis
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AIR CONDITIONING
COMMERCIAL

**Packaged Air
Conditioning Units
2 to 15 Tons
Condensing Units
1/4 hp. to 40 hp.**

Curtis Refrigerating Machine Division
of Curtis Manufacturing Company
1912 Klamath Ave. St. Louis 20, Mo.
Established 1854

Advertising Can't Do Whole Selling Job

Edward Hegarty Says the Dealer and Salesman Have Forgotten
How To Use the Fundamentals of Selling; Here They Are

By Edw. J. Hegarty

What is the matter with Advertising and Promotion? I say nothing. But a lot of people still ask the question.

A distributor salesman said to me the other day, "Ed, my retailers are losing faith in advertising and promotion."

That's a familiar pattern. You've heard that same type of talk, and you've got out the crying towels or you cried in your beer with the man who asked the question. Perhaps promotions don't work as they once did. Perhaps advertising doesn't pull. And I ask, "So what?"

Advertising was never supposed to do the whole job of selling.

Promotion was never supposed to do that whole job.

For years now, since the war, except for a few short months in 1949, we've been working on this type of pattern.

You went into a store. If you wanted to buy you could buy—if you tried hard enough, but if you wanted information, or courtesy, or any other help that once was a part of selling, you could go fish.

One day I listened while a salesman showed a refrigerator to a customer. He was one of these "yes" and "no" operators. He answered questions, but that was all. His attitude asked, "Why don't you please go away?" After the shopper walked out I asked the young man, "Why didn't you ask her for an order?"

And the young man said, "Listen Mister, if she wants to buy, she'll tell me."

Now what good is the best advertising or the best promotion in the world if you have that kind of selling?

But this big advertising, big promotion and small selling has worked too up until now. We sold appliances, but you don't have to be a genius to see what is wrong with our sales picture. Here it is.

USE YOUR EYES, EARS, BIG MOUTH AND PRACTICE

How well do you use your eyes? When you study law or medicine or accounting or any of the other deadly arts, you have to go to school. When you study selling all you need to do is to go into a retail store, or a railroad train or even a hotel.

The other night I went into the Baltimore hotel in Los Angeles. The clerk said, "The only room I can give you is one of the large rooms. It won't be made up but we will get it made up as soon as we can."

A bellhop took me up to the room. It was a mess. Tables all around the room. Tables covered with sheets. A necktie salesman had just cleared out. No sign of a bed, and only one small chair. Boy, it was discouraging. I was tired. I had just come off the train and I said to the bellhop, "I guess I'll see if I can find a room in another hotel."

The boy said, "Maybe that's a good idea, Mister." He walked over and opened the bathroom door. "But look at this—look at this bath. It's made up."

I looked at the bath. It was cleaned up. Clean towels, soap and the boy went on.

"Why don't you have a hot bath, put on some clean clothes, go down and have a nice dinner and by that time the room will be made up."

Well, that's exactly what I did. Why? Because the boy had given me a lesson in selling.

Now you have such experiences with salesmen every day. You see good selling practiced on you. You also run into some selling that is not so good. And from the two, you learn. As a consumer you trade in retail stores. Why is it you like to trade in

When Edward J. Hegarty, Westinghouse Appliance Div. manager of sales training, spoke before the annual conference of the International Association of Electrical Leagues, his announced subject was—"What's the Matter With Advertising and Promotion?"

However, he began his talk by declaring that there was nothing wrong with advertising and promotion—that what was actually wrong with selling today lies with what the dealer and salesmen do at the retail levels.

In his talk he describes—with humorous anecdotes—the fundamentals of selling that are so easy to apply, but which apparently so many have forgotten.

some stores and not in others? Why is that? It's because of the way you are treated, isn't it? And I'll bet you one thing. In those stores you like to trade in they greet you with a smile.

So, if you are going to get better, here is a tip—

LEARN TO SMILE

A smile makes friends. One of the poets has said, "The man worth while is the man who can smile when everything goes dead wrong."

One day not long ago I was walking up the ramp in the Cleveland terminal. A fellow said to me, "Hey, Mack, I'd like to ask you a question."

I thought it was a panhandler and I started to brush by him, but when I looked I saw he was no panhandler. He was a prosperous looking man, a little on the fat side, grey hair, ruddy complexion, good looking tweed suit. He looked prosperous. And as I looked him over I saw one other thing. The man was a bit tight—lopped—under the influence. Well, this was something for it was only 10 o'clock in the morning.

Now, any of us can get tight after six o'clock in the evening, but a fellow who can be high at 10 o'clock in the morning is a bit of a genius. And I always have time to talk to a genius. So I stopped and I asked, "Okay, what's your question?"

The fellow said, "Why is everybody frowning?"

I said, "I dunno, why is everybody frowning?"

"That's what I'm asking you," the drunk said. "I've been standing here for a half hour and you're the first guy who came up this ramp with a smile on your face."

I suppose I had on a silly grin, but at least I wasn't frowning.

"Here, I'll show you," the drunk said. "Stand here."

And so we stood there, the drunk and I, side by side. And what he said was true. Everybody coming up that ramp was frowning.

"Why is it?" the drunk asked.

And I couldn't answer.

Since then on street corners and in hotel lobbies and places like that, I have watched crowds. Everybody frowns. Why? It's because they are thinking of their own problems, isn't it?

You know, when Charles Schwab was head of a great steel company, he got a lot of publicity because the company was paying him one million dollars per year salary. At about this time, a writer asked him, "What do you consider the biggest factor in your success?"

Mr. Schwab didn't say it was his knowledge of the steel business or his great executive ability. He had both in great measure. He said, "I believe it is my smile." If you have ever seen Mr. Schwab smile, you understand why he felt his smile was his greatest asset.

You know it takes 28 facial muscles to frown. It takes eight facial muscles to smile. I'll tell you something else about frowning. You can't frown when you're thinking about what you are doing.

So learn to smile more. Further, check on that smile of yours. The reason I suggest this is that awhile ago when I asked you to smile at me, some of you seemed to be trying to smile and suck on a lemon at the same time. It can't be done.

So here is a tip. Tomorrow morning when you shave check on that smile of yours. Is it straight. Does it seem real, sincere? If no, practice smiling right. Practice smiling every morning. Get out of that mob of people my friend the drunk found frowning. If you smile the world will smile back at you. A good smile will make friends for you.

The next suggestion is—

READ SOMETHING

Read something different, that is. Read something inspirational. Read a book each month that is supposed to make a better man or a bigger success out of you.

Too many of you confine your reading to business reports out of Washington. They predict the worst, and so you worry until the next report comes. That predicts more trouble, and so you get lower and lower. Your employees are afraid to come in and talk to you for they know you'll say "no." Listen, prophets of doom have been making a good living ever since you have been in business. You will never learn anything reading what they say.

One night, not so long ago, in New



MAKE IT CLEAR. DON'T BE A 'VOCABULARY NUT.' Don't give the prospect involved, complicated explanations or use long words where a short one will do. Tests have shown time and time again that short words and clear statements are tops in effective selling.

York I went to see the play, "Death of a Salesman." You know that's the story of a salesman who gets old and can't carry his samples any more, and the firm takes him off salary and puts him on commission. It is a depressing story. I went to the show with a young fellow about 30 years old. This fellow was a salesman and after the second act this young fellow said, "Mr. Hegarty, this is depressing—I just wonder if I am in the right business—selling?"

"Look," I told him, "Willy Loman, that's the name of the old man in the play, is just a symbol of any man in any business who stops learning." And Willy is such a symbol. Then I asked this fellow a question. "What

self-improvement book have you read in the last month?"

You know, that was an embarrassing question. And most of you would be embarrassed if I asked that question of you. Let me make this confession. I'm over 50 years old, and I read two self-improvement books every month. On selling, on writing, on vocabulary, on speaking. I read the trade papers—how many trade papers do you read?

By reading you can train yourself. Look at Abraham Lincoln. By reading he raised himself up to be the top man in the country. So I say, Read something . . . something that lifts you up. Books on management, (Concluded on next page)

TAKE IT FROM KATE SMITH AND

You won't know what if you don't see

See the
"Kate Smith Evening Hour"
on NBC-TV—
sponsored by Norge



NORGE REFRIGERATORS

8 Beautiful NEW MODELS

There's a size for every family . . . from compact 6's to a giant 11 cu. ft. model. There's a price for every purse . . . from feature-packed manual defrost models to deluxe-equipped Jet Self-Defrosters. For features women really want . . . it's Norge for '\$32



NORGE GAS RANGES

It's the hottest line of gas ranges in the industry—from the apartment-size model with big-range capacity to the amazing new CP model with complete automatic ignition plus exclusive Flash-A-Pan cabinet. Yet Norge prices are sweet and low!



See the Norge line of 100+ models
delivered to a number of retailers!

NORGE HOME FREEZERS

A money-saving feature—Norge's new money-maker for good Norge Home Freezers offer terrific profit possibilities and are ready to prove it!

NOW MORE THAN EVER . . .

NORGE ADVERTISING HITS HOME!

Kate Smith
on TV!

Red Skelton
on Radio!

Hard-hitting
campaigns in leading
magazines!

Sensational Point-
of-Sale material!

Terrific
traffic-building
promotions!

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sales-getting
dealer ads!

See our displays at the
CHICAGO WINTER MARKET

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Merchandise Mart Furniture Mart
2ND FLOOR 5TH FLOOR

Redmond

MICROMOTORS

Prompt shipment!

74 different models in stock

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CYCLO-FREEZ CORP.

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DO YOU LISTEN WITH YOUR EYES? When a customer is trying to tell you something, or is asking a pertinent question, are you giving the customer full attention, or are you looking at the floor or ceiling, or doodling with papers at your desk, or counting your change, as this salesman is doing.

Some Selling Principles To Practice

(Concluded from preceding page)
on selling, books that tell you how to do jobs easier. By reading you can surely improve yourself.

So much for using your eyes. The next suggestion has to do with using your ears.

LEARN TO LISTEN

A judge in Chicago was hearing a divorce case. He asked the wife who started the action why she wanted the divorce.

"My husband is impertinent," she said.

Now the woman was big—a real Amazon. The judge looked at her on the stand, and then down to the little shrimp of a husband sitting at the counsel's table. It just didn't make sense.

"Do you mean he talks back to you?" the judge asked.

"Oh, no," the woman said. "He wouldn't dare do that."

"Then I don't understand," the

judge said. "How can he be impertinent?"

"Well, Judge," she said, "it is the exasperating way he listens."

You know, most of us are exasperating in the way we listen. We don't listen fully. When another talks to us we don't give our full attention to listening.

Now, I'm going to give you a tip that will improve your listening tremendously.

LISTEN WITH YOUR EYES

They say that women can do anything men can but listen. But women are good at one kind of listening that men don't do so well. That is listening with your eyes.

The customer tells you something. You listen, but you are looking at the floor, the ceiling, some papers on your desk. Maybe you hear every word that he says. But does the customer know. He may think that instead of paying attention you are trying to figure a comeback.

But when you look him square in the eye and listen intently he knows you are listening. Try looking everybody in the eye when they tell you a story and you will see what an effect it has. Try it at home with the wife, try it on the girl friend. Start listening with your eyes.

Notice how, when you tell the little wife about the big deal you pulled off, she looks you in the eyes while you are telling your story. And try to analyze how it makes you feel. You feel good don't you? You swell up—you're the conquering hero come home. Well, your listening with your eyes has the same effect on your customers.

The next step in that plan for getting better is to check on how you—

USE YOUR BIG MOUTH

Where do salesmen come from? From almost anywhere. But the usual way is to promote Sammy, the boy in the stockroom or on the counter. He's bright and eager, has a nice personality and doesn't have B.O. or halitosis and he can talk. You think Sammy can talk to customers. So Sammy is made a salesman. The first thing that Sammy's customers ask is—

TELL ME SOMETHING

The other day I went into an appliance store. There were two Westinghouse irons on the counter and the irons looked somewhat alike. One sold for \$11.95, the other for \$7.95. I asked the little girl behind the counter, "What's the difference between these two irons?"

The girl looked at them awhile. Then she looked up at me, smiled and said, "Four dollars."

I have here a common pencil. That is, it looks like a common wooden pencil to you. But this is an unusual pencil. That yellow enamel is baked on, it will not nick. This eraser end is on tight. It won't come off. It says here it is "wood clinched." And notice that this eraser comes off. It can be turned over when it is worn, or replaced by a new one. The lead is large and soft—it's micromatic carbon—it says so right here on the side. Now that pencil doesn't sell for 15 cents or 10 cents. No, that pencil sells at retail two for 15 cents. And I have told you a story on it, haven't I? But I haven't told you one word of what it will do for you.

Let me tell you that. This pencil is balanced, you could write all day with that pencil without tiring your hand. That lead makes a black mark, a mark that is clear and easy to read. This eraser is soft and it will erase the mark completely. You see, I am telling you what the pencil will do for you. That's what the customer wants to know—what will it do for me?

So train yourself to tell the story of what it means to me so that you—

MAKE IT CLEAR

How many of you people here read the comics? Everybody here who reads the comics hold up your hands, will you please? (Audience raises its hands.)

That's fine—almost every one of you. Well, 80% of the words in the comics are one syllable words. Now the reason I asked for a show of hands is this—if I had told you 80% of the words were one syllable words without asking for that show of hands, you would have said, "Sure, they are, look who reads them." But 80% of those words are one syllable words and everybody reads the comics.

One of my friends made a study of the fan mail coming into his station. In 1,500 letters he found that 76% of the words were one syllable words. Now if the public uses and understands one syllable words why do we use words like "objectively?" We say, "When you view this objectively, . . ." How many of you here know what you are talking about?

Now all of us at sometime or other get the bug of building a vocabulary. That's fine. It is a worthy effort. But let's not try to get a vocabulary of big words that confuse and confound our friends. Let's build a vocabulary of simple words that help make our meaning clear.

To illustrate the power of small words, I have here five proverbs. I'm going to say the first two words of these proverbs and have you say the rest.

- All's well
- A stitch
- A bird
- A new broom
- A miss

(The audience repeats the last words.)

Gentlemen, in those five proverbs are 35 one syllable words, and every youngster out of the eighth grade knows them. Why, if small words are so powerful do we continue to use the more difficult words?

The young fellows who come to us out of college need training in how to say things simply. In demonstrating a refrigerator they say, "Notice how easy it is to remove this meat keeper." Why do they say "remove?" Why don't they say "take it out?"

Do you think that same young fellow at a burlesque would yell, "Remove it, remove it, remove it?"

Words that seem simple to you can

confuse the other fellow. There was a plumber in Brooklyn who made the amazing discovery that he could clean drains with hydrochloric acid. The acid did such a grand job that he wrote the government about it. In time a letter came back and this is what the letter said.

"The efficacy of hydrochloric acid is indisputable, but the toxic deterioration is incompatible with metallic permanence."

When the plumber got this letter he was filled with joy. The government had approved his idea. He was a foreign born fellow and that night he took the letter down to the club and showed it to the boys. There was a lot of drinking of red wine and all agreed that Tony should write the government and thank them for approving the idea.

The next day Tony did and in time there came another letter from Washington. This one said,

"There is no doubt of the effectiveness of hydrochloric acid, but the final responsibility for the production of toxic residue is wholly yours."

Again the plumber rejoiced. Again there was a celebration at the club. This was a great country. You didn't land in jail when you wrote a letter to the government. Instead you got letters approving your idea. The boys agreed that this time they would sign the letter thanking the man for approving the idea. They did that and this time the letter came back without big words. It said,

"Don't use hydrochloric acid. It eats hell out of pipes."

That makes you laugh, doesn't it? Yet most of us are like the fellow in Washington, we don't take the trouble to use words that will make our meaning clear.

Think back over your own experience. It hasn't been very long, has it, since there has been some mistake, or some work that had to be done over because you didn't make yourself clear.

So train yourself to make yourself clear. It pays.

The next suggestion was—

PRACTICE

When you practice you get good. You'll practice your music, or your golf swing, but how often do you practice your demonstration or rehearse your sales story?

A number of years ago Westinghouse developed a method of cooking vegetables that saved vitamins. That method called for using little or no water, cooking in a covered utensil, no stirring, bring to a boil quickly and then finishing the cooking on low measured heat. You can cook that way with any fuel, but you can do it easier on an electric range. Tests showed the method kept the vitamin content in the vegetables. As the salesman told the story he was taught to show how a woman usually cooks vegetables.

She covers them with water and boils them until she thinks they are done. Then she takes the pan, holds the lid like this, walks over to the sink and pours the water down the drain. Our story was that the vitamin content of the vegetable was cooked out of the vegetables and into the water, and when she poured the water down the sink, the vitamins went with it.

Salesmen, thousands of them, were taught to tell this story and do this demonstration of holding the lid in place on an imaginary pan and pouring the water down a sink. It was a good demonstration, and it was effective because you have seen your wife do that same thing hundreds of times. The boys practiced that demonstration and they were good at it.

Watch street fakers selling things. They have to be good. They have to stop you while you are on your way somewhere. They try to stop you and hold your attention.

Yes, it pays to practice and rehearse. Here is a summation of my story. It's what you need to do to get better.

Use your eyes, ears, big mouth, and practice.

RED SKELTON...

You're missing NORGE!



Listen to the "Red Skelton Radio Show" on CBS—its story not covered by television

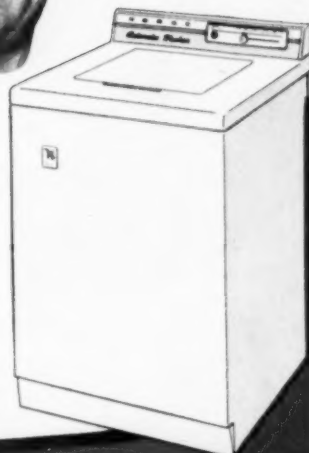
HERE'S THE AUTOMATIC THAT'S MAKING SALES HISTORY!

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WASHES BETTER!
RINSES BETTER!
CLEANS BETTER!
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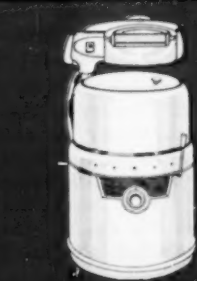
BROKE ALL SALES RECORDS IN '51!

This new Norge is the once-in-a-lifetime miracle that dealers dream about. An appliance so perfectly designed and engineered—so appealingly priced—so packed with features women want—it's proving to be a sales natural!



NORGE ELECTRIC RANGES

A size and price for every pocket—yet every model has the famous "Pyramid" construction provides greatest stability in the industry. Streamlined design, service-saving quality, unexcelled workability... all at the dollar-crushing price you must see to get!



NORGE WASHERS

Remember, dealers, the new Norge washers defy competition. Exclusive "Pyramid" construction provides greatest stability in the industry. Streamlined design, service-saving quality, unexcelled workability... all at the dollar-crushing price you must see to get!



NORGE WATER HEATERS

Compact table-top or upright models... 12 to 32 gallon sizes... all electric. Featuring exclusive Twin Magnesium Anodes that guard rust and corrosion, and the famous Norge 10-year Freezing Proof!

NORGE

the line that pays off
for the dealer!

TO REPLACE
CARBON



TET
FOR
SHOP
USE

SEE YOUR LOCAL JOBBER

They'll Do It Every Time By Jimmy Hatlo



Do You Have 'Both Feet On The Ground'?



She'll love the year-in, year-out dependability of its TECUMSEH Hermetic unit

Yes, she finds it easy to love the smart new refrigerator that has just entered her home. She loves it for its beauty, for its modern up-to-the-minute conveniences, its smooth, vibrationless operation.

But the nice thing about it is that she'll love it more and more as the years go by. For, long after it has lost its "brand newness", she will be loving it for the faithful service it has given through the years--thanks to the precision-built Tecumseh Hermetic Unit with which it is equipped.

For Tecumseh Hermetic compressors are famous the world over for their long-lasting, trouble-free performance, their low

operating cost. Here are just a few of the many reasons for their superiority:

Large, oversize bearings; counterweighted crank-shafts; super-finished bearing parts (.0001"); Chieftained connecting rods and pistons; simple and positive motor controls; leakproof motor terminals.

Many models include both fan-cooled and static condenser type units. In various combinations of compressors, motors and condensers, they cover the entire range of applications from 1/8 h.p. to 3/4 h.p.

Write for complete information.



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TECUMSEH, MICH. *Company*

EXPORT DEPT.: 2111 WOODWARD AVE., DETROIT, MICH.

World's largest producer of compressors and condensers units for the refrigeration industry.

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark registered
U. S. Patent Office
Est. 1926



AIR CONDITIONING AND REFRIGERATION News

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.

Grounds for Optimism

In 1952 the General Electric Supply Corp. will be reorganized through the establishment of 11 new sales districts and more than 70 new outlets to handle the greatly increased business anticipated for the electrical industry in the next three years, according to Charles R. Pritchard, president of the huge G-E subsidiary company.

Most important phase of this reorganization plan is a large-scale, nationwide office and warehouse building program, plus a subdivision of sales districts into more concentrated territories.

Mr. Pritchard declares that this program is based on an industry-wide belief that the market for electrical appliances and supplies of all kinds will be at least 50% greater in 1954 than it was in the record year of 1950.

"General Electric Co., Hotpoint Inc., and the several other companies whose products we distribute are now engaged in tremendous enlargement programs of their own," Mr. Pritchard adds. "We are enlarging our organization in order to serve these companies more aggressively, efficiently, and economically, as well as to improve our service to our hundreds of thousands of customers."

General Electric Supply Corp.'s total volume of business in 1951 will exceed \$500,000,000, which is an amount five and a half times greater than its 1940 volume. In consequence, G-E has divided its marketing area into four sales regions, each of which will operate under a vice president. These are the Northeast region, with headquarters at Bridgeport, under Charles T. Shropshire, formerly vice president and administrative assistant to the president; the North Central region, directed from Chicago, under Donald B. White, formerly manager of the Buffalo district; the Southeast-Southwest region, centering in Atlanta, under Robert A. Clark, former Atlanta district manager; and the Western region, with headquarters in Los Angeles, under Harry C. Gerster, formerly manager of the Los Angeles district.

The new districts will be located in Memphis, Tenn.; Jacksonville, Fla.; Bridgeport, Conn.; Lubbock, Texas; Sacramento, Calif.; Wichita, Kans.; San Antonio, Texas; Rockford, Ill.; Grand Rapids, Mich.; Phoenix, Ariz.; and Little Rock, Ark. New branch houses will be opened in Greenville, N. C.; Newport News, Va.; Albany, Ga.; Tyler, Texas; Burlington, Vt.; Los Angeles, Calif.; Boston, Mass.; Chicago, Ill.; Cleveland, Ohio; Detroit, Mich.; New York, N. Y.; Philadelphia and Pittsburgh, Pa.

Thus it seems that the men who should know most about market potentials in our industry are optimistic to a degree which outsiders might deem fantastic. They're betting big money on this potential, however, and they must know what they're doing.

These Corporate Giant managers should have all the salient facts possible, plus the highest-priced soothsaying talent at their command. So moves of this sort have great portent.

'Tis possible that they may be right about The Future. In case, they are, all of us should set our own sights upward.

Sound Advice

"When a man is pushed, tormented, defeated, he has a chance to learn something; he has been put on his wits, on his manhood; he has gained the facts; learned his ignorance; is cured of the insanity of conceit; has got moderation and real skill."—RALPH WALDO EMERSON.

NPA, Munitions Board Plan Clinics To Aid Small Businesses

WASHINGTON, D. C.—The Munitions Board has been joined by the National Production Authority in a coordinated program to assist small manufacturers, it was announced recently.

Aim of the expanded program is to show small producers—by means of clinics—how they may convert their productive capacity to some essential civilian or military goods, when their materials are diverted from less-essential goods which they have been making.

Heretofore, the regional subcontractor clinics for this purpose have been under the chairmanship of the Armed Forces regional councils. Now they will have as co-chairmen the regional directors of the NPA (Commerce) field offices and will be called "Industry Assistance Clinics."

Producers whose less-essential operations have been cut down and producers whose operations have been expanded in the emergency, will be brought into consultation by the NPA, which knows whose supplies of critical materials have been cut, and by the Armed Forces, which knows whose supplies of these materials have been expanded.

The flow of information and business opportunities will be helped further by representatives of the Atomic Energy Commission and of the General Services Administration, which procures government supplies other than military.

Military contractors and essential civilian producers who need to build up their supply lines also will assist, along with local governors' committees for small business and the regional committees sponsored by the Office of Defense Mobilization.

A schedule of these enlarged industry assistance clinics in key cities will be announced quarterly.

M-H Receives Recognition For Direct Mail Campaign

MINNEAPOLIS—For the second consecutive year Minneapolis Honeywell Regulator Co. has received a top advertising honor for its direct mail campaign.

In annual competition sponsored by the Direct Mail Advertising Association, Honeywell's program was judged "best of industry" among manufacturers of heating, ventilating, and air conditioning equipment.


The direct mail program included leaflets, booklets, and other printed material for mailing to prospective customers.

The company's campaign was prepared under the direction of John Young, merchandising manager, and H. D. Bissell, director of merchandising.

MORE INFORMATION?

Use Handy Coupon on "What's New" Page of this issue.
Use Key No. for fastest service.

Going Places in the Refrigeration Field



DEAN
"Job Tailored"
COLD PLATES

Save time... save money! Any size, any shape, most metals! More and more the choice of cost-conscious refrigeration engineers. Get the full details today!

WRITE FOR TECHNICAL DATA BOOK

DEAN STERLING 9-5400
PRODUCTS, INC.
1042 DEAN ST. • BROOKLYN 16, N. Y.

Chamber of Commerce Metal Survey Shows Dim Outlook for Near Future

WASHINGTON, D. C.—Copper will be scarce for several years. Aluminum prospects for the immediate future look bad but expanded aluminum facilities should relieve shortages by the middle of 1953 if construction materials could be had. The steel outlook continues to improve. Coal supplies at mines are ample and stockpiles high.

These were among findings of a survey conducted by the natural resources committee of the Chamber of Commerce of the United States.

Reporting on the study, A. L. Lynn, committee chairman, said the United States could not fully meet its estimated defense needs because of world-wide shortages of certain materials, particularly metals.

"The truth is," Lynn said, "the world cannot supply the total demands of military leaders who are considering the requirements of modern mechanized warfare."

He said this country has not had an opportunity to rebuild the mineral and metal reserves into which it dug heavily during World War II. The U. S. is importing about a third of its consumption of copper, lead, and zinc, he stated.

Self-Employed Must Have Social Security Number To File 1951 Income Tax Returns

DETROIT—If you work for yourself, you will need a social security account number when you file your income tax return for 1951, Benjamin D. Waechter, manager of the central Detroit field office of the Social Security Administration, reminded businessmen recently.

Waechter explained that the 1950 amendments to the Social Security Act extended old-age and survivors insurance coverage to all self-employed persons except farmers and members of certain professional groups, such as doctors, lawyers, architects, engineers, public accountants, and funeral directors.

Even these are covered if, in addition to their regular work, they work for themselves in an occupation covered by the law.

Waechter declared that self-employed persons covered by the law—and this includes salesmen and manufacturers' agents—must pay their social security tax when they file their Federal income tax return, unless the net earnings derived from their business are less than \$400 for the taxable year.

The tax rate for 1951 is 2 1/4% for self-employed persons. It applies only to the first \$3,600 of net earnings.

This amounts to \$81 on the full \$3,600.

"Some self-employed persons will be able to retire as early as Jan. 1, 1953 and receive the maximum retirement benefit," Waechter said.

"For example, a person who reaches the age of 65 by January, 1953 will be eligible for retirement at the maximum of \$80 per month if his net earnings are at least \$3,600 in each of the years 1951 and 1952.

"Although an employee working for wages may file a claim as early as July 1, 1952 if he reached the age of 65 and retired at the end of June, the self-employed person who reaches 65 at the same time must defer filing his social security claim until the beginning of 1953.

"The reason for this is that he cannot get credit for his 1952 earnings until he has filed them on his income tax return for that year. He cannot do this until the beginning of the following year.

"If he does not delay filing his claim for social security retirement benefits until he has filed his 1952 return, his benefit payment rate will be based on his 1951 earnings entirely.

"Since a minimum divisor of 18

months must be used in figuring the average monthly earnings upon which the benefit rate is based, he will not get the maximum in monthly payments that his self-employment earnings would indicate," Waechter concluded.

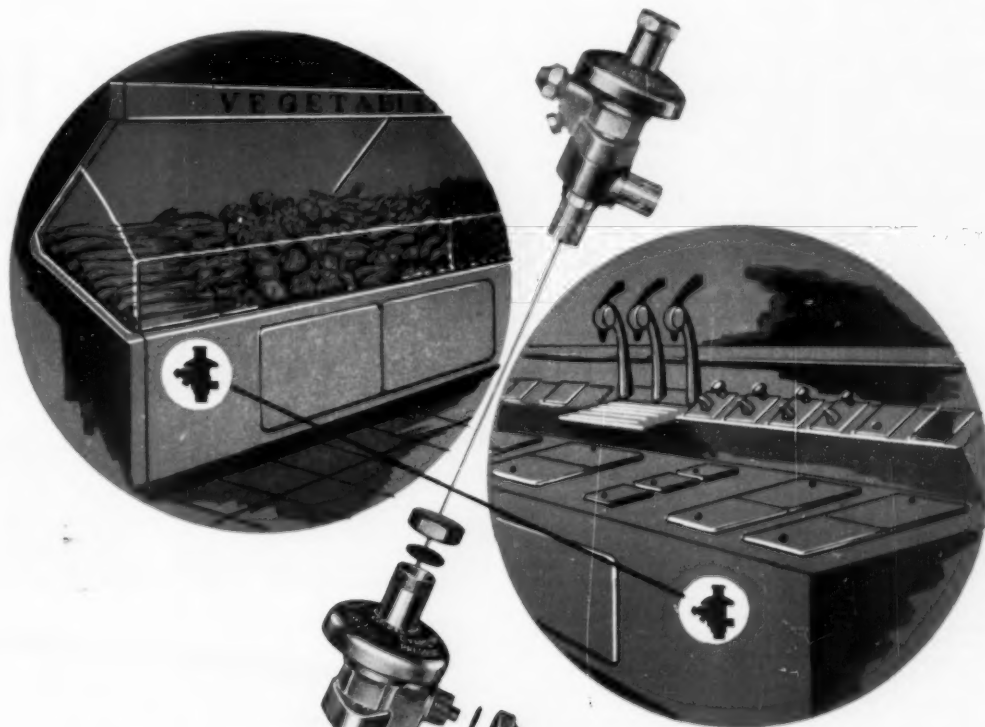
Self-employed persons who do not already have social security numbers can get them from any Social Security Administration office. These offices also have free booklets explaining social security for the self-employed available on request. The booklet is called "Do You Work for Yourself?"

New Advertising Agency Organized In Milwaukee To Succeed Howard D. Camm

MILWAUKEE—Formation of a new advertising agency here—Camm, Costigan & Seitz, Inc., was announced recently.

The agency succeeds the Howard D. Camm agency of Milwaukee, but represents a new and enlarged organization. The principals of the new agency include Howard D. Camm, president; John F. Costigan, vice president-secretary; and Kenneth H. Seitz, vice president-treasurer.

Offices of the new agency will be located in the Empire Building at 710 N. Plankinton Ave. in Milwaukee.



ALCO EVAPOTROL 760

prevents freezing and de-humidification

allows precision regulation of individual evaporators in multiple systems
—maintaining constant pressure despite sudden load changes

Engineered for Servicemen:

- simple come-apart construction—easier to service on the spot
- gauge connection for accurate gauge setting—prevents error in setting
- strong, safe sweat connections—no leaky flares or nuts, no large tubes to flare—easy and economical to install

See the 760 Evapotrol at your ALCO wholesaler—or write for Bulletin 760 giving complete details.



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Growth, Future of Packaged Conditioners

Sales of Packaged Units, Which Have Grown from 13,350 to 250,000 In 12 Years May Climb Till 1,600,000 Homes Have Cooling In Next 5 Years

By William B. Henderson, Executive Vice President,
Air Conditioning & Refrigerating Machinery Association

Of the many remarkable developments in the design and use of air conditioning equipment in the past 20 years, outstanding is the packaged air conditioner. Factory assembled, the packaged air conditioner is shipped to the buyer ready for operation after the addition of service connections.

It is the industry's answer to the constantly increasing demand for air conditioning for industrial processing, and for health and comfort in spaces where people work and live. It provides an essential weapon for the merchandiser in the competitive battle for the consumer's dollar.

Two Classifications

Packaged air conditioners are usually grouped in two general classifications: the room air conditioner and the self-contained air conditioner. These two classifications differ, in the main, only in size and type of application or use.

The room air conditioner is the smaller in size and is of the window-sill or floor (responder) type. Its size range is from $\frac{1}{2}$ hp. through $1\frac{1}{2}$ hp. Usually it is air cooled.

The self-contained air conditioner is usually water cooled and its size range is much broader, currently from 2 hp. through 25 hp.

The designation "horsepower" is here used loosely (and inaccurately) only as a comparative measure of size or capacity. A more proper descriptive term would be "cooling unit."

With their installation and operation advantages for many applications, packaged air conditioners may become even larger in size than they are today. But increased packaged unit size is not of primary importance. In some instances where large total capacities are required, packaged units may be installed in multiples with economies in installation, operating, and maintenance costs, especially where the installation is to be made in an existing building.

History of Packaged Air Conditioners

Packaged air conditioners first came on the market in commercial quantities in 1935, though some had been sold a year or two earlier. They first appeared separately on an industry statistical record in 1938. Those first room air conditioners were of the floor type and were the forerunners of today's packaged air conditioners.

The window-sill type room air conditioner did not make its appearance in quantity until 1940. Public acceptance of packaged air conditioners in those early years was reflected in fairly encouraging, though not spectacular, sales volume.

tacular, sales volume. Sales rose from 13,350 units in 1938 to 40,000 units in 1941.

Came World War II. Arming the United States and other countries curtailed the manufacture of packaged air conditioners except for defense and defense-supporting needs. Relatively few packaged air conditioners—slightly over 50,000 units—were manufactured in the four war years, 1942 through 1945.

But with the end of hostilities, the pent-up demand for air conditioning equipment (and particularly packaged air conditioners) quickly made itself evident. In 1946, sales of almost 48,000 packaged units were recorded, and sales continued to rise rapidly to a volume of 250,000 packaged units in 1950. No longer could there be any doubt that air conditioning had a large measure of public acceptance as being desirable and necessary to the American economy and to better living for the individual.

Packaged Air Conditioner Shipments 1938 Through 1950

Year	Self-Contained	
	Room Air Conditioners	Air Conditioners
1938	13,350	56,047
1939	18,320	34,389
1940	23,638	37,982
1941	42,904	32,072
1942	29,835	17,829
1943	1,126	13,847
1944	523	4,468
1945	3,676	3,949
1946	21,561	3,079
1947	33,013	7,007
1948	11,444	5,880
1949	8,800	3,681
1950	13,350*	

*No statistical separation made.

Better Product—Lower Price

Today's packaged air conditioner is, in every way, much superior to its predecessor of the 1930's. Yet the 1951 packaged air conditioner actually sells for less. The cost of everything that goes into producing and distributing the packaged air conditioner has increased tremendously, and to these costs must be added substantial excise and sales taxes.

But offsetting those stubborn facts—mass-production economies, refinements in the product through capable design and development engineering, and improved methods of distribution have all combined to bring a lowering of the unit selling price in terms of comparative dollar-purchasing power.

As a measure of the decrease in unit selling price: In 1935 a $\frac{1}{2}$ -hp. floor-model room air conditioner retailed for about \$400. Today, a $\frac{1}{2}$ -hp. floor model retails for approximately \$350. But today's retail dollar has but 52% of the purchasing power of the 1935 dollar. On the basis of the 1935 dollar, the 1951 $\frac{1}{2}$ -hp. floor-type packaged air conditioner is selling for about \$310, or 25% less than its 1935 predecessor!

And though it is something like comparing apples and oranges (for the floor-type packaged air conditioner has distinctive differences from the window-sill type) a $\frac{1}{2}$ -hp. window-sill model in 1951, retailing at about \$430 (including 10% excise tax), sells, in terms of dollar-purchasing power, for about one half what the 1935 floor-type room air conditioner did!

A much better product at a much lower price—that is the hallmark of a progressive industry.

Industrial Use

Today the use of air conditioning for product processing and for use in furnishing services has become so widespread and necessary that it now excites little more comment than the use of electric power. Many of our key industries are heavily dependent on air conditioning for high-speed, quality production.

Indeed, many could not operate at all without the temperature, humidity, and air cleanliness control provided by air conditioning. This essential air conditioning is often furnished by packaged units, either in multiples for large spaces or by single units for research and testing laboratories, product-assembly

areas, gauge rooms, and similar relatively-small enclosures.

Armed Services Are Large Users

The armed services are large users of air conditioning, much of it being provided by packaged units. The varied military uses of air conditioning have been listed in excess of 300. They range from the production of atomic weapons and other munitions to guarding the safety, health, and morale of fighting personnel in the confined spaces in warships and in combat control centers; from the assembly, protection, and repair of delicate electronic material to use in hospitals, rehabilitation centers, and convalescent areas.

Typical of the many little-known, yet important uses of packaged air conditioning for the health and morale of service personnel, hundreds of room air conditioners were used during World War II to permit night-flying aviators, operating under tropical conditions, to obtain vitally-needed rest during hot daylight hours between missions.

Commercial Field

Today, as has been the case ever since the packaged air conditioner first came on the market, the retail and service industries—with their

- Sales of packaged air conditioners have grown from a mere 13,350 in 1938 to 250,000 in 1950.
- In 1951, over 70% of the room air conditioners sold were purchased by individuals for use in residences and apartments.
- Within the next five years, granted freedom from war or major depression, we will see more than 1,600,000 American homes enjoying either partial or complete air conditioning.

The above were some of the thoughts expressed on the "Growth and Future of the Packaged Air Conditioner" when William B. Henderson opened the Packaged Air Conditioner Conference at the 47th annual meeting of the American Society of Refrigerating Engineers in New Orleans. The industry will be interested not only in the future prospects but also in the statistics of the past, so the News is publishing his talk in detail.

millions of stores, restaurants, offices, display rooms, and other places of business—continue to provide a leading market for our industry's packaged products.

Air conditioning is almost indispensable for survival in today's highly-competitive market-place. It often marks the difference between profit and loss. A profit margin is increasingly difficult to retain these days because operating overhead climbs constantly higher.

New and heavy charges, stemming from government controls, must be met. In addition, the businessman now shoulders a heavier burden of Federal, state, and municipal taxation.

Air conditioning is needed to attract buyers and keep them in a buying mood despite uncomfortable weather; for the protection of merchandise from soiling and spoilage; for decreasing cleaning and maintenance costs; and for the comfort,

health, efficiency, and productivity of the organization's operating staff.

A recent news item provides an illustration: Both Republicans and the Democrats have decided on Chicago for their 1952 national conventions. Two auditoriums competed for this highly-desirable business. The successful bidder, despite substantial disadvantages of location, transportation, etc., was awarded the contracts principally because he promised the benefits and comforts of adequate air conditioning for the huge convention crowds.

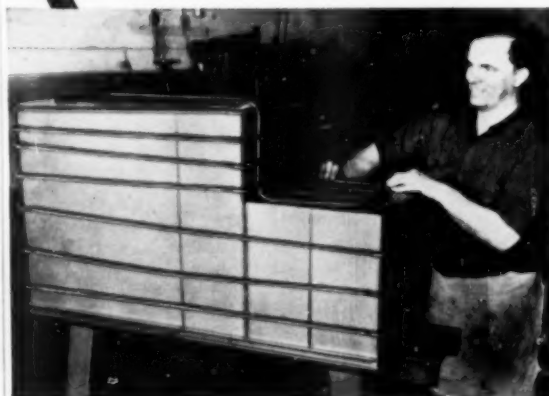
Employee Benefits

An indication of today's public demand for comfortable and healthful living and working environment is the large number of air conditioning installations in factories and offices, primarily for the benefit of employees.

Companies find that employees are more productive, with much less ab-

(Continued on next page)

Your finest buy in



1. DESIGN SAVINGS

Bundy engineers save right from the start by helping to work out the most practical, basic design for your new tubing part. By spotting every chance to use less tubing or to take production short-cuts. Left: mass-produced evaporator coils for home freezer, requiring 96 separate bends, now permit Bundy customers to market new, improved home freezer at rock-bottom costs for tubing unit.

2. FABRICATION SAVINGS

You save because Bundy engineers "can do." If a fixture doesn't exist to turn out a tubing unit, Bundy men often design that, too. Here, special bending fixture, developed by Bundy, turns out coil for bottom of freezer (in panel above) in shortest possible time and with minimum bending operations.



Bundyweld Tubing

DOUBLE-WALLED FROM A SINGLE STRIP

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of basic metal, coated with a bonding metal. Then it's...



continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Bonding metal fuses with basic metal, presto—



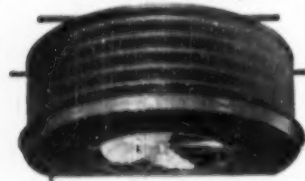
Bundyweld... double-walled and brazed through 360° of wall contact.



NOTE the exclusive patented Bundyweld beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

LOOK TO LARKIN

For Efficiency



LARKIN HALF-TURRET NUMI-TEMP

Efficient operation makes a product easier to sell on one hand; builds solid customer satisfaction on the other. Precision engineering—only the best materials—skilled craftsmanship—and almost 25 years experience in commercial and industrial refrigeration—all add up to higher efficiency for every Larkin product. And this means lower operating costs—important to buyer and seller alike.

Manufacturers of the original Cross-Pla Coil—Numi-Temp Units—Evaporative and Air Cooled Condensers—Air Conditioning Units and Coils—Direct Expansion Water Coolers—Steel Vacuum Plate Coils—Heat Exchangers.



WATCHDOG OF THE NATION'S FOOD SUPPLY

Bundy Tubing Distributors and Representatives: Cambridge 42, Mass.: Acuff-Hodges Co., Inc., 226 Biney St. • Chattanooga 2, Tenn.: Fairson-Dodkins Co., 823-824 Chattanooga Bank Bldg. • Chicago 32, Ill.: Lopham-Hickey Co., 3333 W. 47th Place • Elizabeth, New Jersey: A. S. Murray Co., Inc., Post Office Box 478 • Philadelphia 2, Penn.: Ryan & Co., 1717 Somerset St. • San Francisco 10, Calif.: Pacific Metals Co., Ltd., 3100 19th St. • Seattle 4, Wash.: Eagle Metals Co., 4735 First Ave. South • Toronto 5, Ontario, Canada: Alloy Metal Sales, Ltd., 881 Bay St. • Bundyweld nickel and Monel tubing is sold by distributors of nickel and nickel alloys in principal cities.

(Continued from preceding page)

sentism and employee dissatisfaction when the working spaces are properly air conditioned. Employers find that air conditioning helps maintain a stable employee group—and this has a close relationship to an organization's success as a profitable business. Employee "turnover" is expensive, especially in these days when competent replacements are hard to get.

Increasingly, air conditioning is being made a condition of collective bargaining by employee representatives. The implications of this trend are important for the air conditioning industry. It can logically mean that, in the future, relatively few industrial plants, stores, or business offices will be without air conditioning, installed primarily for the purpose of maintaining employee comfort, health, stability, and productivity.

Residential Users

With the enjoyment of the benefits of air conditioning in the places in which they work, shop, and spend their recreation hours, it is small wonder that so many insist on having air conditioning in their homes. In 1951, over 70% of the room air conditioners sold were purchased by individuals for use in residences and apartments.

The majority of these were installed in bedrooms. Most were bought because of the comfort and home cleanliness benefits they provided. But many were purchased primarily as an aid for a member of the family suffering from heart trouble, high blood pressure, hay fever, asthma, or other ills.

Purchasers do not fall into any definite income-group pattern. Homes in low-cost housing developments are

sprouting room air conditioners in their windows to an extent not greatly less than the areas in which the higher-income groups live. Air conditioners are not uncommon in auto-trailer camps.

The increased market acceptance of packaged air conditioning in the smaller homes has led to a growing market for room air conditioners of small capacities (1/2 hp. and 3/4 hp.). Smaller rooms mean less-exacting demands on the room air conditioning units.

Lower prices are an attraction. But this trend has very definite dangers for the industry; the sale of a low-capacity unit may be the result of a salesman's exaggerated claims that the unit will cool a space much larger than that for which it was designed.

To minimize that danger (unfortunately it cannot be entirely eliminated), the industry must find a way to tell the buyer the utmost he can expect from a unit of a stated capacity. Eventually we will see an end to the implied guarantee—by some salesman—that a unit will provide comfort regardless of conditions.

That will come when the buyer understands and accepts an air conditioning unit's limitations, much as he understands and accepts the limitations of the cubic capacity of a refrigerator or the number of burners on a stove.

But the growing market for small-capacity room air conditioners at lower prices should lead to an increase in the multiple installations of room air conditioners in homes, and further spur demand for larger-capacity units.

There is an increasing demand for year-round, central station air con-

ditioning of residences by packaged air conditioners in both new and existing homes. This type of air conditioning will, without a doubt, become as necessary a component of the residence of the future as a heating unit is today.

What's Ahead?

The packaged air conditioner is at a stage of commercial development and public acceptance where normally one could prophesy, with reasonable assurance, increasing production and sales in the next year or two. But will those years be even approximately "normal"?

Many unknown factors cloud the outlook. Those "unknown factors" stem largely from the unstable international political and economic situation, the free world's re-armament program, and the impact on our national economy.

Materials from which to fabricate packaged air conditioners for general use will be curtailed during the next year. Beyond that time, your guess is as good as mine as to whether there will be a reasonably-normal national economic situation or more severe materials shortages, heavier taxation, more credit restrictions, more price and wage regulation, and other government control. Under such circumstances, short-term forecasts of production and sales volume are particularly hazardous.

But the long-term outlook for the industry cannot be other than optimistic. Confirming our individual faith in the nation's economic future and in the availability of markets for the profitable sale of the products of our factories, come the recent announcements of expansion plans of two of our country's indus-

trial leaders, Westinghouse Electric Corp. and General Electric Co.

These companies plan spending a total of \$750 million in the next three or four years to expand production and merchandising facilities for various of their many products. A substantial part of this expenditure will be channeled to increasing the flow of consumer durable goods. Other companies in many industries have appraised the future in the same coldly-objective light and are similarly backing their considered judgment with substantial financial commitments.

There will be peaks and valleys in our national economic progress, and undoubtedly some jarring jolts we must be prepared to weather, but, on balance, the economy of the United States will continue to expand far into the future. In that expansion, the packaged air conditioning industry should grow to major national status.

Industry production facilities are already large and are capable of expansion to take care of almost any volume of business increase which may be forecast. As the member-companies of ACRMA manufacture about 90% of the total annual production of packaged air conditioners, I am fairly familiar with the extent of the industry's present facilities.

The industry's distribution and sales organizations have been substantially strengthened and broadened during the past few years in anticipation of increased demand and sales volume. Those distribution facilities will be substantially augmented by the recently-announced entry into the packaged air conditioner field of several nationally-outstanding merchandising organizations.

These newcomers have demonstrated, with the products of other industries, their ability to build a strongly-competitive and progressive industry structure. Their hard-headed and practical appraisal of the packaged air conditioner industry's future has convinced them that the product is of "big league" merchandising caliber, confirming the conviction of those who have been in the industry for many years.

Market Possibilities

As has been demonstrated so many times in the past, when the average American wants something which he feels will benefit his health and increase his enjoyment of living, he finds some means of buying it.

The home market has a large potential for the sale of both room air conditioners and central station packaged air conditioners embodying heating and cooling for year-round use. In addition, the development of the heat pump for the air conditioning of homes (and also for commercial and industrial applications) provides material for interesting speculation in considering the production and marketing outlook for the packaged air conditioner for home use.

In an appraisal of the residence market, some of the figures supplied by the Bureau of the Census give basis for what could easily be too-enthusiastic forecasting. But considered conservatively and with liberal subtraction to compensate for climatic conditions, buying-power variables, and other market factors, the potential for the sale of packaged air conditioning to the homes of America is still highly attractive.

Consider that America has 43 million individual homes and 8 million apartments equipped with electricity. Many of these will eventually be using room air conditioners. Some will have two or more units.

Many of the individual homes will install central station, year-round packaged air conditioners. Approximately 12,000,000 residences, almost half of which are owner-occupied, are heated by warm air central heating plants using ducts for air distribution. The owners of many of these should have a pretty direct interest in central station packaged air conditioners.

One of our industry's leaders whose opinion is particularly to be respected because of his constructive conservatism, said recently, "I would hazard a guess that within the next five years (granted freedom from war or major depression) we will see more than 1,600,000 American homes enjoying either partial or complete air conditioning."

There are other practical reasons for home air conditioning, though perhaps less compelling than the health and comfort of the occupant and his family. Home air conditioning keeps the furniture and furnishings in much better condition, and

they last longer. Because of greater cleanliness, much less housework is required.

These are important factors, particularly for the housewife, what with domestic help being so expensive, unreliable, and hard to get; home furnishings and all living costs being so much higher in price; and taxes and other deductions taking such a large bite out of the pay envelope.

The more than 2 1/2 million retail and service establishments and the business and professional offices of the nation will absorb large volumes of packaged air conditioners of all sizes as our economy expands. The buying public will demand constantly-higher operating standards from merchandisers of goods and services, in keeping with the higher living standards of the future.

The more than 250,000 industrial plants of the United States, a major market for the larger, field-assembled air conditioning systems, will continue to provide a growing market for packaged air conditioners for many different purposes.

The 'Market Saturation' Bogey

There are those who say that cooling will never be as important to man as heating—that the need for man to keep warm is as old as man himself, and that this will impose a limitation on the sale of air conditioning equipment for human comfort and health.

That is not even a half-truth. Air conditioning is more than heating or cooling, and the degree of individual need for the benefits of air conditioning varies from person to person, group to group, region to region. It was said, four decades or so ago, that the automobile would never replace the horse. Later it was stated that the mechanical refrigerator, while an interesting contraption, could never offer serious competition to the advantages the iceman had to offer.

Time proved the emptiness of those prophecies. The prophets then fell back to a second line of defense—saturation of market. "Twenty million automobiles are the limit the economy can possibly absorb," said they, and backed up their statements with an impressive array of logical arguments. The "proved" saturation point of mechanical refrigerators was stated as being in the neighborhood of 10 million units.

Today 50 million automobiles ride the nation's highways and annual sales of new automobiles number in millions. Forty million mechanical household refrigerators grace the kitchens of America's homes and recent annual sales of new units have hit over five million. Despite these huge sales volumes, the market shows little sign of market "saturation" for these two products.

Actually, there is no such thing as "saturation of the market" for any product which meets a need of the American buyer, but the makers and sellers of that product must keep faith with the buyer. Otherwise the market will dwindle and die, not because of "saturation" but because of lack of interest and confidence on

(Concluded on next page)

refrigeration tubing on every count



Specify Bundyweld and you buy the industry's finest tubing and finest fabrication skills... you buy dependable lines, evaporator and condenser coils at the lowest possible cost consistent with famous Bundyweld quality.

When specifying tubing for your refrigerant lines, coils and condensers, take a good, long look at all that you buy with Bundyweld Tubing.

Here is the only tubing double-walled from a single strip, copper-bonded through 360° of wall contact. Its double wall is stronger walled, yet thinner walled... leakproof with high bursting strength and faster heat conductivity. You buy tubing with no compromise on features.

In the last 20 years, Bundyweld Tubing has been used for the vital tubing parts in hundreds of thousands of the finest name-brand refrigerators, home freezers, food lockers, display cases and the like. You buy proved, trouble-free performance, as evidenced in the

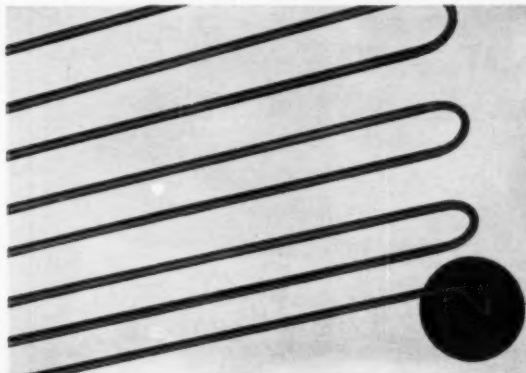
continued use of Bundyweld by the manufacturers concerned.

Bundyweld hits your assembly lines clean as a whistle, inside and out... as specified, and on time. Either fabricated by Bundy or in lightweight, easy-handling coils and lengths for fast, economical fabrication by your men. You buy unsurpassed engineering skills and services that mean major savings in the critical stages before a single unit is turned out... in planning, design and in initial production setup.

Price-conscious, or performance-conscious—or both—the world's finest refrigeration engineers know there is no adequate substitute for Bundyweld Tubing.

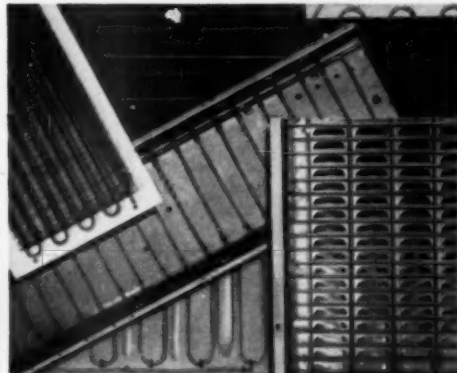
There can't be. No other tubing is like it.

Contact a Bundyweld Distributor (listed lower left), or write direct to Bundy Tubing Company, Detroit 14, Michigan



3. IMPROVED PRODUCTION

You save through Bundy's own constant search for improved production methods on a finished part. For example, putting special ends on serpentine coils formerly required separate operation. Now, detachable Bundy-designed machines are fitted onto main bender and complete units produced in one simultaneous operation. Result: costs per unit reduced for Bundy customers.



4. TIME SAVINGS

There's a good chance that Bundy has already solved the problems your tubing unit may present and can swing into fabrication steps quickly, smoothly. No waste motion, no costly delays. In the last twenty years, Bundy has fabricated millions of refrigeration tubing parts, including evaporators and refrigerant lines, simple and complex, and (above) plate, wire, and fin-and-tube condenser coils of all shapes and sizes.

ALL OF THESE FINE PRODUCTS AND MANY OTHERS USE... CERTIFIED SILVER BRAZING ALLOYS

UNITED WIRE & SUPPLY CORP.

Growth, Future of Packaged Conditioners--

(Continued from preceding page)
the part of the prospective buyer.

Whether the future annual rate of sale of packaged air conditioners will be half a million units, or a million units, or more, I leave to those better qualified than I to forecast. Much depends on how well our industry makes the product, how much more we can offer the buyer for a reasonable price (but at a profit), how honestly and well we sell the product, and the extent to which the prospective buyer feels he must have air conditioning for his personal benefit.

Merchandising Aspects

The larger types of packaged air conditioners will probably always require a salesman of some engineering competence. But the smaller types of packaged air conditioners will be sold to the mass market by a salesman whose only concession to technical knowledge of air conditioning application will largely be represented by a small, plastic "ready reckoner."

Ready Reckoner will tell Mr. Salesman that, given a space of a certain size and other physical characteristics, the company's model R21P1 should be sold without furthergivings or inhibitions about Btu's or other technical considerations.

But Ready Reckoner, in telling Mr. Salesman what to sell Mr. Mass Buyer, passes the responsibility of performance right back to the manufacturer of the unit. It will be a sad day for the manufacturer and

his investment if Mr. Mass Buyer decides he has been gypped by being sold an under-capacity unit or one that won't perform as he has been led to believe it will.

There cannot be the slightest doubt that there will be many casualties in the competitive battle as the packaged air conditioner industry grows—and the companies most likely to become early victims are those which try to make a "fast buck" at the expense of the buyer.

The history of American business is replete with examples proving that that is the quickest and most certain way to go broke. In building a successful business, there is no substitute for customer confidence in the product and in the brand-name.

Importance of Engineering

The future of packaged air conditioning depends heavily on the industry's engineers. They design and supervise the production of the unit for the merchandisers. The product must sell in a market place where competition for a piece of the customer's dollar is keen. The packaged air conditioner must be a good product to be sold competitively at a profit. Failing such a sale, it becomes just so much scrap metal.

One can foresee that air conditioning units will become smaller in size in relation to capacity and lighter in weight as a result of the use of new and improved metals and even more ingenious and compact interior equipment arrangement. Installation and operating economies will constantly increase, and service

requirements, already at a low point, will be even further minimized. These are all advances which even a layman can forecast with assurance.

Some of the needed advances will particularly challenge your ingenuity. I have in mind such things as air-cooled units of much larger capacities; improved condensate disposal for air-cooled units; the elimination of unit projections beyond the line of the building wall; reduction of operating noise almost to a point of complete elimination; and reductions in power requirements. And, just to make the task tougher, the problems must be solved in such a way as not to increase production costs.

In the years ahead, some of the changes we will see, particularly in the field of development and design engineering, may be revolutionary. Consider, for example, the thought-provoking challenge General David Sarnoff of the Radio Corp. of America gave to his research scientists and engineers recently—to develop an electronic air conditioner for the home that could operate with tubes, or possibly through the action of electrons in solids, and without moving parts.

Impossible? Perhaps... but advances of substantial magnitude are never made without setting the objective on the borderline of the impossible. And, in your lifetime and mine, we have seen the "impossible" achieved in more than one instance.

For my part, I have every confidence that the problems will be solved, for there seems to be no limit to the inventiveness and ingenuity of the industry's engineers. Your motto might well be that worn catch phrase, "The difficult we do immediately, the impossible takes a while longer."

What's New

When requesting further information on new products, please use "Information Center" form.



Magic Hostess Introduces Infrared Table Broiler

—KEY NO. B-110—

LONG ISLAND CITY, N. Y.—An infrared table broiler and rotisserie that will hold a 10-lb. roast or its equivalent is being manufactured by Magic Hostess, Inc. here.

The unit, called the "Magic Hostess," is constructed of triple plated chrome interior and exterior on heavy gauge steel. Spit and skewers are nickel plated.

The rotisserie is rotated at "extra-slow" speed for "extra-fast" cooking by a heavy-duty motor completely enclosed in the base of the unit. The motor was specially designed and manufactured for Magic Hostess, the company said. No oiling is required. The motor is operated by a separate switch.

The broiler, through a porcelain-embedded element, provides two heats, 1,250 and 315 watts respectively. These are controlled by a three-way switch on the front.

The aluminum tray with nickel plated wire rack is pitched toward the lower left hand corner for ease in lading juices. It is provided with a folding, heat-resistant bakelite handle. The spit also has a heat-resistant bakelite handle.

The broiler is supplied with a permanently attached 6-ft. glazed cord with spring contacts. It plugs in to a.c. only, using 1,250 watts, 120 volts, and 13 amps.

The unit measures 17 in. wide, 10 in. deep, and 11½ in. high. Interior

dimensions are 14¼ in. wide, 9½ in. deep, and 8½ in. high.

Lane Associates of New York City have been appointed to handle sales and distribution for the broiler and rotisserie. National distribution will begin early in 1952.



Appliance Mfg. To Show 4 New Washer Models

—KEY NO. B-111—

ALLIANCE, Ohio — Four new models of Duchess wringer-type clothes washers will be shown for the first time during the January furniture markets at the American Furniture Mart in Chicago, Frank McGrath, vice president in charge of sales for the Appliance Mfg. Co. here, announced recently.

All models have been improved in appearance and features but no price increase is contemplated, McGrath said.

Outstanding improvements are full skirts on all models, with an automatic electric timer for the new semi-automatic model A9-O with the heat retaining jacket.

List prices in zone 1 are: A5-O \$114.95, A6-O \$124.95, A8-O \$134.95, and A9-O \$154.95.

Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

What's New or Current Literature Available

Key No. Key No.
Key No. Key No.
Key No. Key No.
Key No. Key No.

Products Advertised
(list name, page, and issue date)

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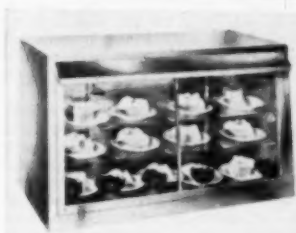
see the NEW low-priced 1/3-horsepower CARRIER Room Air Conditioner

During the Chicago January Market and Housewares Show, visit the Carrier exhibit in Room 1186, Merchandise Mart. See the new 1952 Carrier Room Air Conditioners, and the new 1952 Carrier Humidry.

Carrier

Air Conditioning • Refrigeration

What's New (Cont.)



Refrigerated Counter Case Designed for Restaurants

—KEY NO. B-112—

CHICAGO—Lern, Inc. here has introduced a counter model, self-contained display case for eating establishments.

The company said the case enables restaurant operators to increase sales of cream pies, pastry, salads, desserts, and the like because the display is kept under controlled refrigeration and in direct view of customers.

Illuminated by fluorescent lighting, the insulated portable case is 36 in. long, 20 1/2 in. high, and 18 in. deep. Interior and exterior are of stainless steel. Adjustable shelves are provided.

The case plugs into any 110-115 a.c. outlet. Refrigeration operates "on automatic frost and defrost cycle," according to the manufacturer.

Mitchell Dehumidifier

Occupies 1 Sq. Ft. of Space



—KEY NO. B-113—

CHICAGO—Mitchell Mfg. Co.'s 1952 model D-182 dehumidifier is now in full production, according to E. A. Tracey, vice president in charge of the company's Air Conditioning Div.

Outstanding feature of the unit, the company said, is its "vertical construction which allows over-all measurements of only 1 ft. square and 37 1/2 in. tall. Because it is high and narrow, the dehumidifier may be easily moved without stooping and conveniently placed in the smallest space."

Portability is made simple by use of heavy ball-bearing casters on the legs of the unit. An integral 8-qt. galvanized moisture receptacle obviates the necessity of attachment to a permanent drain. If desired however, Tracey pointed out, the unit can be attached to a drain hose by means of a 1/2 in. fitting in the bottom of the unit.

The new model is said to be capable of removing from 17 to 25 lbs. of water from 10,000 cu. ft. of air in 24 hours.

Heart of the unit is a 1/4-hp. refrigeration compressor operating on any 60-cycle, 115-volt a.c. circuit. The unit is surrounded by a 19-gauge furniture steel cabinet finished in "Desert Sand" baked enamel.

Moist room air is drawn in through the bottom of the cabinet and passed over evaporator coils cooled by the circulation of "Freon-12." It is then drawn through a condenser which heats it and discharges the dry air at room temperature for recirculation in the room. Moisture condensed on the coils drops into a catch pan from which it drips into the receptacle or permanent drain.

Ventilating Hood Fits Standard Kitchen Cabinets



—KEY NO. B-115—

GLENDALF, Calif.—A newly designed kitchen ventilating hood that fits standard kitchen cabinets and fits low over the range to trap cooking by-products at their source has been introduced by the Stanthony Corp. here.

The back panel extends to the cooking top. The ventilator incorporates lights and switches under the nose of the hood and is equipped with or without an exhaust blower unit. Cabinets over the range conceal the blower unit and vent.

Two models of blower unit are offered, one of 300 and the other of 425 c.f.m. Aluminum foil filter prevents grease accumulation in the blower and washes clean in any household detergent.

The hood is made in two styles: a Provincial scalloped design in copper baked enamel and an Aristocrat modern design in white baked enamel or other colors. The hood is made of steel in welded, one-piece construction.

The Stanthony Corp. offers a descriptive folder.



'Break-Bar' Added to American Kitchen Line

—KEY NO. B-116—

CONNEERSVILLE, Ind.—Newest addition to the American Kitchens line of steel kitchen equipment is the "Break-Bar," a large, easy-to-clean, continuous top, serving counter.

The Break-Bar, which also provides storage space for small appliances, is of heavy gauge reinforced steel with a top covering of bonded vinyl. Six ft. long and 21 in. wide, the counter top provides 10 1/2 sq. ft. of serving area.

Designed to fit the widest range of kitchen layouts, whether the kitchen is L-shape, U-shape, or straight wall, the Break-Bar can be used as an entirely separate unit.

It is designed to harmonize with American Kitchens equipment manufactured by the American Central Div., Avco Mfg. Corp.

Over-all height to the top of the

backsplash is 40 in. The height of the surface counter top is 36 in. Trimming is of stainless steel, while the continuous top may be in Tampa tan, Red Wing red, Baltic blue, Greenwich green, and black.

Shelves of the end base what-nots are covered with vinyl, while the three shelves of the Break-Bar cabinet are finished with glistening baked on enamel.



Nolin Has New Closed Vegetable, Dairy Case

—KEY NO. B-117—

MONTGOMERY, Ala.—Now being produced by Nolin Mfg. Co. here is a closed-type "Moisturizer" vegetable and dairy case.

The refrigerator is made in two sizes, 8 ft. and 10 ft. Both are self-contained.

The case is available in either white Dulux baked enamel finish or stainless steel.

Tests have shown that the refrigerator will keep produce in a salable condition for long periods, according to A. C. Nolin, president.

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Emergency Lighting Unit Operates Automatically

—KEY NO. B-114—

ROCKVILLE CENTRE, N. Y.—Designed to fill any emergency lighting need is "Sentry-Lite" model 200x, a fully automatic and independent emergency lighting unit made by Sentry-Lite Div. of Hobby & Brown Electronic Corp. here.

The unit plugs in any ordinary outlet and functions automatically when power fails. It illuminates 10,000 sq. ft. for a period of nine hours or more, according to the manufacturer. When power is re-established, Sentry-Lite immediately starts to recharge automatically.

The unit is produced in a portable steel case finished in grey hammer-tone. Two adjustable sealed beam lamps provide illumination. A Thomas A. Edison battery provides power. Also incorporated are test lights and switch and a charger light and switch.

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Alternate Materials

Conference Sees Copper, Aluminum Situation Serious for Immediate Future, But Concludes There Is Little Need for Permanent Substitutes

NEW ORLEANS—"It is a fairly simple matter to describe the present aluminum situation: there just isn't enough of it available to take care of all the demands. The future picture is considerably more optimistic."

With these somewhat encouraging remarks the Domestic Engineering Conference on alternate materials held during the 47th annual ARHE meeting here was under way. These views on aluminum came from John R. Willard, manager of sales development for Aluminum Co. of America.

Copper Tight Till 1954

Similarly, the distant future of copper supplies is reasonably bright, but there won't be enough for both civilian and current military requirements until 1954, indicated Milton F. Meisner, associate director of Western Brass Mills.

Chairmanned by Milton Kallischer, the conference also heard a discussion on plastics from William C. Wall of du Pont before the meeting was turned into an open forum session.

In outlining the aluminum situation, Willard explained first that "the present supply is made up of (1) the domestic production of primary metal, (2) scrap recovery, and (3) imports."

"Domestic production of primary

aluminum in the United States for the year 1951 should reach 1,650 million pounds, which is about 200 million pounds more than last year. However, scrap recovery has been considerably below the historic pattern. Various government orders have tended to interfere with the normal flow of scrap and early this past summer, the government also slashed scrap prices in half and put ceilings on prices that dealers could charge for scrap metal.

"Imports in 1951 are considerably below last year when 353 million pounds entered the country. In general, the decline of at least 100 million pounds of imports this year is caused by the fact that other nations also want aluminum for civilian as well as continually growing military requirements."

"While exact figures are not yet available, it would appear from the foregoing that 1951 primary production, plus scrap recovery and imports, will just about equal 1950 figures, even though primary production is considerably improved," Willard estimated.

"In the meantime, government stockpiling and increasing military demand has created a pretty rough situation for the civilian customers. 1951, however, is now about to take its place in the history books, and 1952 is of considerably more interest

and the aluminum outlook is considerably brighter."

"The government has authorized an increase in the aluminum industry's primary smelting capacity of about 85%. Approximately 1.3 billion pounds of new capacity will be added, raising the nation's total to well over 2.8 billion pounds. This increase, incidentally, will be entirely financed by private industry."

Aluminum Output May Climb Higher Than Last War

"Assuming that the entire expansion plan is carried to completion and construction proceeds on schedule, production in 1952 should set an all-time high of more than 2 billion pounds, or about 10% higher than the peak achieved during World War II," he predicted.

"This new record will be of short duration, however, because 1953 should shatter the old record and 1954 may reach a figure of 1 billion pounds above the World War II peak."

"It is impossible to predict just how much of this vast increase will be channeled into civilian production, but barring an all-out military effort, it seems logical to expect that the present shortage will be greatly improved if not actually cured by the latter part of next

year," Willard said.

"When the currently planned expansion is completed, 95% of the industry's smelting facilities will be capable of economical operation, giving the country a permanent production capacity twice as great as that which existed at the end of World War II. This fact not only establishes a firm foundation for the continued growth of the industry, but also gives encouragement to the wider utilization of aluminum to meet the nation's future peace-time needs."

"By 1954, the American aluminum industry will be producing nearly 10 times as much primary aluminum annually as they did in 1939, just prior to World War II. No other major metal industry can equal this record."

How Will Industry Expand?

"The question might well be asked, 'How is it possible for the aluminum industry to expand so greatly in such a relatively short length of time?' The answer is provided by Mother Nature. The ore from which aluminum is made is very abundant. It is the most plentiful of all the metals found in the earth's crust. Geologists estimate that about 1/2 or 8% of the earth's crust is aluminum. It is no paradox that the abundance of aluminum, as compared to all other metals, has and will continue to have a great influence on its importance in the family of metals."

"To be sure it is somewhat difficult as well as expensive to convert aluminum ore into metallic aluminum. However, the processes for making this conversion are well understood, and the only bottleneck in the process is electric power. If this important ingredient can be provided in sufficient quantity, future production of aluminum is limited only by the demand," Willard asserted.

Regarding the critical copper situation, Milton Meisner of Western Brass Mills told the domestic engineers not to plan "long-range substitutions for copper on the basis that there won't be enough copper or copper-bearing materials available."

"There is more copper known to be in the ground than ever before. The world's copper reserves are more than adequate."

The stories that permanent substitutes should be found for copper are strictly "propaganda or publicity," he asserted, adding that plans are

under way to increase copper production 25%.

"The U. S. government has issued certificates of necessity, etc., for projects which will increase copper production more than 200,000 tons a year. ECA projects may increase copper another 150,000 tons, starting with 50,000 tons in 1952. Anaconda projects will amount to 50,000 more tons, and the scrap flow to brass mills will also increase."

"This totals up to some 400,000 tons more copper a year. The present shortage due to military requirements is about 400,000 tons a year. By 1954 then, copper will be in sufficient supply for military needs short of all-out war and all pre-Korea civilian needs. And these figures do not include the recent new copper discoveries in Labrador," Meisner explained.

As for the cost of copper, he stated that "copper and its alloys have never been cheap in terms of the cost per pound, but copper is cheap in terms of the results obtained."

Plastics Situation

In discussing "Engineering Aspects of Plastics," William C. Wall, products specialist of the Polychemical Dept. of E. I. du Pont de Nemours & Co., devoted most of his talk to describing the wide applications of nylon made possible chiefly by what he termed its excellent "sliding friction" properties.

"No plastic can be commercially successful, however, unless it has the support of the automotive industry," he emphasized as he briefly reviewed the growth of the modern plastics industry.

Although nylon is most widely known for its use in stockings and textiles, it is finding increasing application in bearings, gears, shaft seals, solderless electrical connectors in hermetic refrigeration units, electric coil forms, office business machines, in valves as seats, etc., Wall declared.

Cost of nylon, as with any other material, is an important factor governing its use. Wall admitted, but he pointed out that while nylon "costs \$1.60 a pound, it is light, weighing one seventh as much as steel."

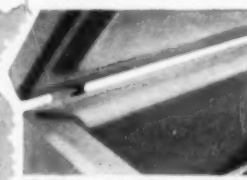
"If you think of it in terms of cubic inches per dollar, nylon compares favorably with many materials," Wall stated. "Costs of test methods for plastics have also been reduced. By taking the original

Concluded on next page



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What's New for '52?

The "LEHIGH TEAM" has many new and interesting projects scheduled for '52 — all of a character to strengthen and implement the sales position of Lehigh dealers and the facilities of service-engineering organizations. Included will be units of higher capacity — increased emphasis on Lehigh truck units, for which Lehigh has won many major contracts on a quality basis. As always, the BLU-COLD line will emphasize sound engineering — and the entire "package" will be supported by vigorous promotion to all types of users. Inquiries will be welcomed from dealers interested in a quality line backed by an aggressive and responsible organization.



REVCO, INC. - DEERFIELD, MICH.

Alternate Materials Conference--

(Concluded from preceding page)
metal part and casting phenolic molds around it, the cost of temporary molds for injection machines can be reduced from around \$500, say, to \$25."

Thus an engineer can determine at relatively little expense whether the particular piece can be made successfully of plastic, Wall indicated.

Speaking of plastics, W. C. Austin of the Bakelite company in the discussion that followed raised a small point. "We object," he said, "to the use of the word 'plastic' to cover the whole field. You don't say a refrigerator is made of 'metal.' You say 'steel,' 'copper,' etc. Why not then say 'polystyrene,' etc., when referring to plastics."

On the general subject of alternate materials, James Hornaday of Norge commented that "none of us has enough to permit pre-Korean production. We can't get aluminum tubing but we're not familiar with it and we'll spoil a lot of it. The fabrication of aluminum evaporators is completely new to many of us in the industry. There's also the problem of joining aluminum to copper. Since shortages began we have used plastics for refrigerator crispers, for example, but molds for a full width crisper cost from \$18,000 to \$30,000."

"The problem of brazing aluminum is no different than anything else," commented another engineer (Cooper of Amana). "We've used aluminum evaporators in freezers for four years. We had a little trouble initially, as would be expected with anything, but we've been very successful."

"Brazing aluminum to copper is

no great problem," volunteered Walter P. Hill. "The alloy used for brazing die-castings will do a nice job on brazing aluminum to aluminum or aluminum to copper. In fact, brazing aluminum to aluminum is no problem at all. It can be done as easy or easier than silver soldering."

"In training production help, however, don't get an experienced welder or you'll have trouble. Get a woman who doesn't know anything about welding or brazing," Hill suggested.

Steel Substitutes Scarce

The subject of steel tubing also came up for some discussion when O. E. Norberg of Avco submitted that "we have used steel tubing for some years on small freezers and found corrosion failures very low."

He emphasized that a good sealing job was done on these, but another speaker (Jos. Duggan of Bundy) commented that a five-year test on a box without a seal or protective coating revealed only very slight rusting of the tubing although the insulation itself was wet.

Some general aspects of finding alternate materials were brought up by Charles Harris of International Harvester, who asked, "For steel, what alternates do you have? Practically none. You can use less, say, by reducing the gauge, but this increases the cost of manufacture."

"Substitutes for aluminum can be plastics or painted steel, or you can modify the design. We have saved 400 tons of aluminum—equal to the amount required for 100,000 refrigerators—at International Harvester by changing the design," Harris said.

"Some of the things you change to today may become permanent. I suggest you look into the wall thickness of copper tubing for possible savings," he also added.

How one manufacturer (Hotpoint) has been trying "to outsmart the confusionists in Washington" was revealed by F. L. Tarleton who explained:

"We have tooled up three or four ways on some things so we can switch promptly to alternate materials. This costs more but models don't change rapidly now so this cost can be written off over a longer period. We haven't lost a single item since the war except due to allocations."

Chairman Kalischer commented: "We developed a painted shelf but we can't convince the sales department to accept it."

Said Tarleton: "We warned the sales department eight months in advance that the painted shelf was coming."

Fiber Glass Div. Plans Factory In Indiana

PITTSBURGH—Pittsburgh Plate Glass Co. has announced plans to purchase a three-year-old factory at Shelbyville, Ind. as a manufacturing facility for its new Fiber Glass Div.

According to Richard B. Tucker, executive vice president, the plant is a 147,000-sq. ft., one-story structure formerly owned and operated by the National Farm Machinery Cooperative, Inc.

The new division, formed two months ago and headed by J. Hervey Sherts as general manager, surveyed a dozen available plants in four states prior to selecting the Shelbyville plant. Proximity to potential markets, adequate transportation facilities, and labor supply influenced the plant location.

New Plastic Material Features High Impact Strength And Can Be Molded at High Production Rates, Mfr. Claims

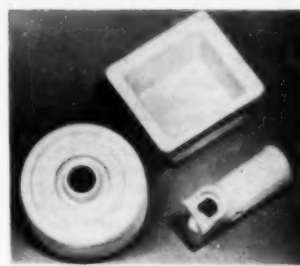
TOLEDO—Expanded military and civilian uses for high strength plastics are forecast in an announcement of a new plastic molding material by the Plaskon Div., Libbey-Owens-Ford Glass Co.

The new plastic has higher impact strength than other plastic material, and it can be molded at high production rates by conventional plastic molding methods, according to Carleton Ellis, Jr., director of sales for the Plaskon Div.

The new material is a fiber-glass and plastic resin combination and will be designated as Plaskon Reinforced Alkyd molding compound. It joins three other alkyd plastics in the Plaskon line, although it is the first of this group to utilize fiber-glass as a reinforcing material.

Ellis reported that the new plastic was being evaluated by various military departments and that eventual use of the material in civilian products such as refrigerators, washing machines, electrical switchgear, and electronic devices of many kinds was anticipated. At the present time the fields of use for the material are largely unexplored, he said, but they appear to be those applications where high impact strength, high heat resistance, extreme dimensional stability, and good electrical properties are required.

Since the middle of World War II glass fibers have been used in conjunction with plastic resins to make high-strength, shock-resistant parts such as radar and photographic



Objects molded from Plaskon Reinforced Alkyd.

housings, body armor, structural aircraft components, and a limited number of civilian uses. The new Plaskon product combines the good physical properties of these glass-fiber laminates, with the fast, labor-saving production methods possible with alkyd and other plastic molding compounds.

The new compound is supplied to molders as a complete resin and glass fiber mixture. It may be pre-formed if desirable, but no pre-heating is necessary because of fast curing properties. Reinforced Alkyd can be either straight compression, or transfer molded. Compression molding, one of the standard processes for forming plastics, has long been used to make buttons, lighting fixtures, bottle caps, radio cabinets, and other mass-produced items.

The new alkyd material will be sold in two forms—Plaskon Alkyds 440 and 442—the latter having particularly good flame resistance. They will sell for \$1.00 and \$1.10 per pound, respectively, and are available in commercial quantities.

The earlier alkyd plastics, the first of which was introduced in 1948, have gained wide acceptance as automotive ignition parts, in electrical control devices, television sets, and other products. Their use has been generally determined by their superior electrical properties and their high-speed, low pressure, automatic molding characteristics.

The Plaskon Div., Libbey-Owens-Ford Glass Co., is the plastics and resin unit of the company which early this year announced the formation of a Fiber Glass Div. That division is now producing Super Fine fiber glass for thermal and acoustical insulation uses, and continuous glass textile strands for the reinforcement of various materials, such as plastics, for electrical insulation, and as yarns for glass cloth.

Rice Appliance Store Opens

WHEELING, W. Va.—Rice Appliance Co. here has been granted a charter by the Secretary of State to engage in an electrical appliance business. Authorized capital stock is \$5,000. Incorporators: Walter L. Rice, Catherine F. Rice, and Charles P. Mead, all of Wheeling.

TAKES TIME OUT



F. E. MORRISON

F. E. Morrison, Appliance Mgr., Rockford Standard Furniture Co., Rockford, Ill., says:

"I receive practically all of the trade publications, but the News is the one that I immediately take time out to read completely, as it seems the News gives us the most complete and most reliable information on what is new in our industry. Also your section on refrigeration problems and procedure is most helpful to our Service Department."

"When I first subscribed to the News I was a little skeptical as to how much value it would be to an appliance department such as ours, inasmuch as we do very little commercial or air conditioning, but I find that your complete coverage of the appliance picture brings us what is new in our industry first."

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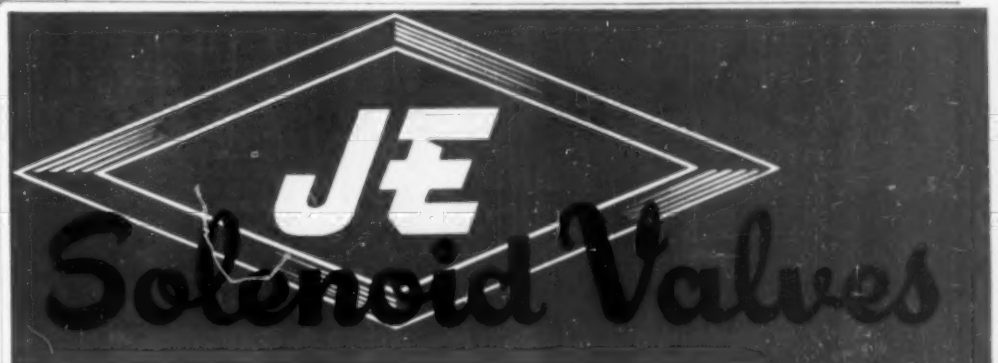
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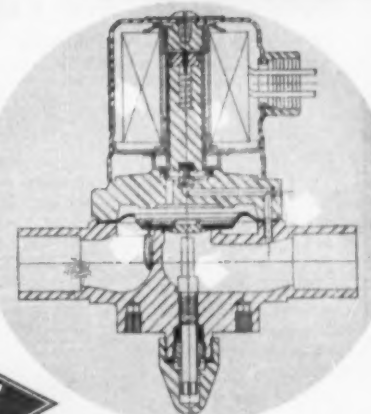


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Odor Control

Activated Carbon Units Are Only Effective Means of Removing Odors In Enclosed Spaces, Sleik Says; Describes Units Made By W. B. Connor

By George M. Hanning

DETROIT—The only really effective method yet devised for removing odors from an enclosed space is through the use of activated carbon, Henry Sleik, vice president of the W. B. Connor Engineering Corp. of Danbury, Conn., declared here recently.

Sleik spoke before a joint meeting of the local sections of the American Society of Refrigerating Engineers, American Society of Mechanical Engineers, and the American Society of Heating and Ventilating Engineers.

He presented a brief review of the problems of odor control and described the activated carbon equipment his company makes.

Sleik explained that while the human sense of smell has not been developed to the fine point that our senses of sight, touch, and hearing have, considerable scientific progress has been made in the appreciation of odors and our reaction to them.

He defined an odor as that quality of a substance that affects or excites our sense of smell. Substances are odorous, he said, by virtue of their vapor pressure. Vapor, as distinguished from gas, is matter in a gaseous condition at less than its

critical temperature. "Odor," he declared, "is our method of distinguishing between different vapors."

Though scientists have been studying odors for many years, Sleik said, very little objective data, as opposed to subjective information, has been obtained. We still depend on our sense of smell for information about odors rather than on knowledge about the composition of the odors themselves.

WE CAN SMELL ODORS, BUT CAN'T ANALYZE THEM

"We recognize a substance through its odor subjectively—by smelling it—but we have discovered no objective relation between odor and chemical composition. We have tried but have found that the same chemical elements in different substances give off different odors. In one substance these elements may give off a putrid odor and in another a sweet odor."

However, Sleik noted, we do know that olfactory fatigue exists. In other words, a person subject to an odor for a certain length of time grows accustomed to it and no longer recognizes it. Take him away from

the odor into fresh air for a while and then return him to the area in which the odor exists and he will again distinguish it.

Research has been conducted on olfactory fatigue to determine how large a concentration of an odor must be in the air before a person will begin to detect it and, conversely, how long it will take a person to detect a specified amount of odor in the air. The point at which the odor is first recognized is called the "odor threshold."

ODORS FALL IN THREE GROUPS

There are three groups of odors, Sleik related. One comprises those odors that are wanted, such as perfumes and odors added to non-odorous substances for identification purposes.

The second group includes those that are not wanted, such as foul odors or odors that blot out desired smells.

Thirdly, there are the "in-between" odors. These, such as body, tobacco, cooking, or alcohol odors, are acceptable as long as they are held below the threshold of perception.

In this third group, Sleik said, our problem is to control their accumulation in enclosed and occupied spaces. We can do this by complete ventilation, when temperature and humidity are not a factor. With air conditioning, however, such ventilation is costly.

"There are three proposed methods of controlling these odors," Sleik declared. "One is to introduce into the air stream a chemical that will break down the vapor and destroy the odor. No satisfactory method of accomplishing this has yet been devised."

"A second is to deliberately introduce a presumably pleasant odor to mask the offending odor. All deodorants now used are actually masking agents, whether or not they are so represented. Some deodorants have the effect of deadening the olfactory senses, so that persons in the enclosed space cannot smell the offending odor simply because they cannot smell anything at all. Examples of these deodorants are formaldehyde and zone in dilute concentration."

"Masking agents have the disadvantage of actually adding to the accumulation of odors in the enclosed space, rather than subtracting from them."

"The third method is to pass the room air through a filter that will remove the odors from the air and retain them so that they will not return to the enclosed space."

"The most powerful means of extracting odors and holding them is activated carbon. Many odor nuisances are being abated or eliminated through the use of activated carbon."

HOW AIR PURIFICATION WORKS FOR AIR CONDITIONING

Sleik noted that the size and cost of an air conditioning system is determined by the amount of outside air that must be added and conditioned before releasing it into the enclosed space.

Outside air in an air conditioning system, he declared, performs three functions. One is to maintain adequate air pressure to counteract infiltration. The second is to replace the oxygen consumed in the space. And third is to dilute the internally generated and accumulating odors in the space.

With an activated carbon air purification unit, it is now possible to freshen return air to accomplish the third function, thus reducing the need for outside air to perform only the first two functions.

This, he asserted, makes it possible for the air conditioning engineer to reduce the size and cost of the equipment needed to do the air conditioning job without losing any of its effectiveness.

For example, say an air conditioning engineer determined that he needed 40,000 c.f.m. to properly air condition a space and that 25% of that, or 10,000 c.f.m. had to be fresh, outside air. He could, with activated carbon, purify 6,000 c.f.m. of recirculated air and introduce only 4,000 c.f.m. of outside air and obtain the same results as he would with 10,000 c.f.m. of outside air. By doing this, he would reduce the size



HOW PANEL TYPE activated carbon air purification unit is installed in a unit air conditioner is demonstrated here. This unit consists of frames supporting from one to three rows of perforated carbon filled tubes. They are from one to three inches thick.

of the equipment needed and therefore the cost to the customer.

Sleik emphasized at this point that air purification is not air conditioning and is not offered as a substitute for air conditioning. Air purification merely removes odors from the recirculated air. It does not condition it in any other way.

Sleik then described the air purification units that his company—the W. B. Connor Engineering Corp.—makes. The basic element of the Connor unit is a hollow cylinder canister of activated carbon, so placed in the air stream that air passes through the carbon filled walls into the hollow center from which it is released into the conditioned air space.

The air purification unit consists of a tier or a number of tiers of these canisters mounted on slanted manifold plates. The canisters are precisely placed on the plate so that the aggregate area of the space between the canisters is exactly equal to the circular openings on the outlet side. The end of the cylinder on the air inlet side is sealed, so that the air is forced to pass in a uniform flow through the activated carbon filled walls. This uniform flow is also governed by the 14° slant of the manifold plate.

The placement of the canisters is part of a patent claim, Sleik said, which was at first denied but subsequently granted on appeal when it was demonstrated by actual tests that moving the canisters further apart or closer together destroyed the all important uniform air flow through all parts of the carbon.

If this uniform air flow were not achieved, that part of the carbon through which the air flow was greater would become saturated sooner than the remainder. Having ceased to be effective, it would permit the break through or escape of contaminated air before the carbon in the canister as a whole had become exhausted.

Sleik also stressed that the cylindrical design insures uniform carbon bed thickness, that is, rigidity of the containing members without flexing. This arrangement of the canisters also insures uniform or equal apportionment of all the air among all the canisters. The actual number and size of canisters used can be varied to fit the requirements of the individual job.

To handle jobs where space is at a premium and there isn't sufficient room for the canister type of air purification unit, the company has developed an accordion pleat type of carbon unit that is made in a cell measuring 24 by 24 by 8½ in. This unit imposes somewhat greater air resistance than the canister type of equal capacity.

PANEL TYPE FITS IN AIR CONDITIONERS

A third still more compact type unit has been designed for use in railway cars, aircraft, and for application to unitary air conditioners. This panel type consists of frames supporting from one to three rows of perforated carbon filled tubes. These panels are from one to three inches thick. However, they are more expensive than the other types for equivalent air purification which is the cost of compromising for space.

A self-contained, canister-type air purification unit has been designed by Connor for use in cold storage

rooms. This unit is equipped with a circulating fan and an air jet nozzle both to eject the purified air and thoroughly mix it with the storage air.

A small unit consisting of two canisters and a small air jet and called the "Food Saver" is intended for use in walk-in coolers and other limited space storage areas.

Following his review, Sleik was asked from the floor whether the life of the activated carbon unit is affected by dirt and dust. He replied that it was and should be protected by an air filter placed in the air stream just ahead of the air purification unit.

UNITS LAST UP TO 2 YEARS

Answering other questions, he estimated that the life of the equipment (until completely saturated) would be about two years in a comfort cooling air conditioning system, about eight months to one year in a restaurant using reconditioned air, and about three or four months in a restaurant exhausting air for nuisance abatement.

He explained that Connor sends a notice to the customer when it figures that the unit should be about half saturated and asks him to send back a test sample or one of the canisters for testing. The tests show to what degree the system is saturated and the customer is informed as to how much longer the system will operate satisfactorily.

Then, just before the system should be saturated, the customer is again notified and told he should purchase a replacement unit and return the saturated one to the factory. When the saturated unit reaches the factory, the customer is given a credit for the unit against the new one he purchased. The carbon in the used unit is reactivated at the factory and it is ready for use again.

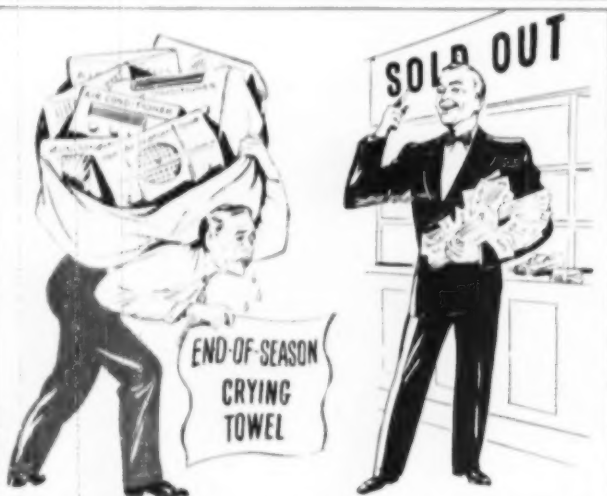
One engineer wanted to know if the company had any trouble with local building codes. Sleik said that Connor had worked on the problem this way. It first succeeded in getting some units installed in Federal government projects and then with these as precedent worked on local authorities.

The company did not try to fight the codes as such, but to work within them.

Each time it would get approval from a local agency, this approval would be added to the force of its arguments and helped to get approval in other communities. He noted that the approval of Detroit authorities had been obtained.

Another engineer wanted to know whether air purification units could be used in hospital operating rooms. Sleik answered that in this case, the company is fighting against the force of habit rather than regulations. He said that he has talked with a number of surgeons and they say they have no objection to the use of reconditioned air in operating rooms. They contend that the use of recirculated air does not increase the incidence of infection.

However, when he discussed the idea with designing engineers, they threw up their hands in horror at the idea of using reconditioned air. He said that government officials have agreed that they will not object to the use of reconditioned air in hospital operating rooms if the designing engineers will specify it.



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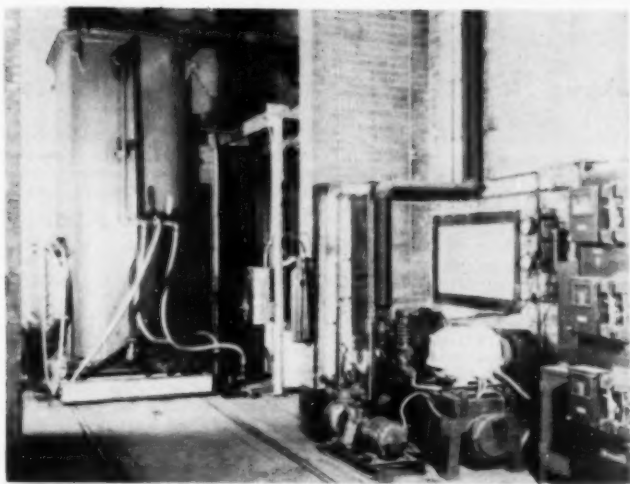
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KEEPING ELECTRIC transformer cool increased its rating about 25% thus boosting electric furnace output 50% or more. Installation of cooling system was made at Lang Co., Salt Lake City.

Electric Transformer Capacity Boosted by Installation of 15-Hp. Refrigeration Unit

SALT LAKE CITY—Installation of a 15-hp. refrigeration system has increased the capacity of a large electric transformer here and given the user a 50% boost in output from his electric furnace.

In view of critical shortages of materials, this increase in capacity is of more than passing interest.

"By keeping the transformer cool, we increased the continuous rating of it approximately 25%, and by increasing the transformer rating this much, we increased the customer's production out of his electric furnace 50% or more, due to the fact that he is able to run that many more heats per day," explains E. D. Smith, vice president and manager of the machinery division of the Lang Co. here.

"Some time ago our customer came to us with a problem," Smith recalls. "He had a 1,000 kva. transformer which he was using to operate his electric furnace. This transformer has a 1-in. copper coil in the oil tank which is supposed to be connected to the city water system to keep the transformer cool.

"During the summer months, particularly, the city water gets up to about 55°. This, of course, limits the continuous rating of the transformer and meant that after every few heats on the electric furnace they had to shut down until they were able to cool the entire mass of the transformer as well as the oil in the oil tank.

"After an analysis of the problem—determining the amount of copper coil surface in the oil tank of the transformer, etc.—we recommended, sold, and installed for our customer a water-cooling system. This consists of a 15-hp. 'Freon' unit, a zig-zag type water cooler, and two circulating pumps. The unit was designed to furnish sufficient water to the transformer at about 38° F."

The water cooler itself was installed on the roof of the transformer house.

"At the time the installation was made, the customer had an additional transformer on order which has been subsequently received and installed," Smith adds. "While this particular application of refrigera-

tion would not be recommended for all transformer installations, a few facts concerning it might also be interesting.

"A 1,000-kva. step-down transformer with its auxiliary equipment installed costs approximately \$32,000 with delivery in the neighborhood of two years, maybe longer. We increased the continuous rating of the transformer approximately 25%, or we can say that based on the above, the equivalent transformer capacity would have cost approximately \$8,000 installed.

"The actual cost at the time of the refrigeration system installed, including all insulation, piping, etc., was approximately \$2,500, or \$5,500 less than the equivalent transformer capacity.

"In addition," Smith comments, "while the operation of the compressor and circulating pumps does require some additional expense in purchased electricity for operating costs, this can be partially if not entirely offset by taking into account: first, transformer efficiency, and second, the cost of city water for cooling, remembering that with the refrigeration system we are recirculating the same water all of the time where with the normal hookup of using city water, the water passes through the cooling coil in the oil tank of the transformer once and then goes to waste."

Geo. Bagwell Co. Opens In Ala.

MONTGOMERY, Ala.—George E. Bagwell, in the refrigeration, air conditioning, and equipment business for 17 years, is owner of the George E. Bagwell Co., 19 Madison Ave., which recently opened for business here.

NARGUS, Univ. of Chicago Course For Food Retailers Opens March 24

CHICAGO—First short educational course for food retailers, sponsored by the National Association of Retail Grocers in cooperation with the University of Chicago, will be held March 24, 25, and 26, 1952, at International House here, according to Gerard Klomp, NARGUS president.

It is tentatively planned, Klomp said, that the first three-day university session for retailers in March will be a general management program with emphasis on personnel selection and training on merchandising.

University of Chicago is now working on a study of food store operating costs as the first research project of the jointly sponsored program.

To support these educational and research activities, NARGUS will make a grant of \$100,000 to the University of Chicago. Now engaged in an intensive campaign to raise funds among its retailer members and their suppliers, the association already has presented the University of Chicago with 25% of the promised grant.

"The program is being established not only for practical training for retail operators, but also for research into the major unsolved problems of retailing," Klomp said. "It is expected to develop into a complete formal business education for the present generation and for those who will take over our responsibilities in the future."

The program calls for action in

five different areas:

1. Basic research by the university on problems related to food store management.

2. Three-day short courses on selected industry problems.

3. Three-day workshops for association secretaries held periodically at the university.

4. The organization of seminars on the problems of food store operations in the graduate program of the School of Business at the university.

5. Assistance by the university in the development and evaluation of films and publications for the association.

Frozen Food Packers List Refrigerator Cars For Shipping Products

WASHINGTON, D. C.—A new list of railroad refrigerator cars considered acceptable for shipping frozen foods has been published by the National Association of Frozen Food Packers. Copies have been distributed to each member of the association.

This "first edition" was prepared by the Association's Transportation Equipment committee. Because of frequent developments in this field, it is anticipated that the current listing will be revised from time to time as additional information becomes available.

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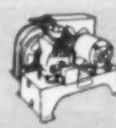
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Hotel Sees Laundry Air Conditioning System Keeping Skilled Machinery Operators on Job

WACO, Texas—Installation of a 25-ton air conditioning system in the institutional laundry plant of the Roosevelt hotel here is expected to go away with a serious personnel problem.

With skilled laundry machinery operators difficult to find, it is necessary to extend every possible comfort to keep them on the job, according to the hotel management.

High humidity, combined with high temperatures, is one of the prime causes of resignations on the part of the laundry personnel, it was found. An excellent example was a single week during Waco's 50 days of 105° or over temperature during the summer past, when three employees flunked and their services were lost to the hotel at a time when flatwork and hotel guest demand was at a critical peak.

This problem reached major proportions when at least one third of the employees on duty during August had to be replaced. As a solution the Roosevelt hotel installed a 25-ton Chrysler Airtemp air conditioning system for the entire building. Robert L. Boyd, of the Kelly Refrigeration Co., designed a high-capacity, separate air conditioning system, which would keep the laundry cool, despite its many heat-producing machines.

A unique method of ducting air into the large laundry plant was designed to literally "blanket" each employee with cool air, to do away with drafts. Nine major heat-producing areas, including mangles, flatwork ironer, gas-fired tumblers, wash wheels, extractors, shirt and finishing presses were separated into zones.

Installed over each of these is a ceiling-mounted cone outlet which is supplied from a square 12-in. duct, furred into the ceiling. The cone is a rectangular metal fixture, 30 in. wide, the sides of which form a shallow triangle with the apex nearest the ceiling. The sides are readily adjustable to increase or decrease the size of the cone to regulate quantities of cooled air as desired.

The nine outlets, all mounted directly over the high heat-producing machines in the laundry, provide approximately 500 c.f.m. of cooled air each, supplied by a single fan station, located in a basement utility

room. One of three 75-hp. refrigeration compressors supplies chilled water for the coil unit, at a coil-entrance temperature of 45°.

The entire system is based on a 100° wet bulb exterior temperature, providing air at 65° at the cone outlet. The total c.f.m. capacity of the system is equivalent to 5,000 c.f.m. adequate to cool all of the nine zones, and to provide "spill-over" to cool an adjoining linen room and storage rooms at one side of the laundry room.

Tests of the system, during waning hot weather, demonstrated that with the cone outlet delivering 75% of capacity, the temperature a few inches above the floor is 88°, dropping at shoulder height to 80°, and at the 6-ft. level to 75°.

In this way, the volume of the cool air which is fed in through the cone diffuser and "mushroomed" out over the machines, is adequate to allow every laundry worker maximum comfort, without a rush of cooled air, which might cause colds, or other ailments.

The system is likewise designed to admit 100% fresh air. No exhaust system is required inasmuch as normal leakage or pressure change is sufficient to exhaust the volume of air provided by the nine outlets.

In Texas Store

Monkeys Enjoy Cooling, Children Enjoy Monkeys

DALLAS—Volk's Oak Cliff store on Wynnewood Dr., in the Wynnewood shopping center, held its formal opening recently.

Two features of particular interest to children are a family of four monkeys housed in a large glass cage and an aquarium with tropical fish.

The monkeys were imported from the jungles of Brazil especially for Volk's Oak Cliff store. The huge glass cage was constructed to surround the monkeys with conditions similar to their natural habitat. A special air conditioning system will maintain jungle-like temperature and humidity at all times, Volk stated.



United States Air Conditioning Corp.'s 1952 window-type air conditioner available in ½ and ¾ ton models.

UsAirco Plans Expanded, Concentrated Campaign

MINNEAPOLIS—A stepped-up promotional campaign, including the company's entry into television advertising, is planned by the United States Air Conditioning Corp. for its 1952 window-type air conditioner, it is announced by D. E. Feinberg, vice president in charge of the refrigeration division.

The merchandising program will be concentrated in the major metropolitan areas of the eastern half of the United States and a few other selected sections because of limitations on production due to the shortage of critical materials.

The units, which will be promoted under the name "UsAirconditioner," will be distributed through appliance wholesalers. Inasmuch as the distribution will not cover the entire nation, the promotional campaign will be conducted at the various local levels, and will include radio, newspaper, and direct mail, in addition to television advertising.

In the early stages, the TV portion of the campaign will comprise one-minute spot announcements, with more extensive use of the medium planned for the height of the air conditioning selling season.

The program will be backed up by a promotional campaign in the trade press, directed toward dealers and distributors, for the entire UsAirco packaged air conditioning line, including store conditioners and "Refrigerated Kooler-aire," as well as the window-type conditioners.

The first of the 1952 model window units have already come off the newly established assembly lines in the Northwest Terminal, in Minneapolis, in which space was leased.

The 1952 "UsAirconditioner" is a completely re-engineered and redesigned unit including among its features all-weather exhaust, distinctive modern cabinet, easy change of filters, and fully sealed hermetic refrigeration system.

It is available in a ½-ton model for rooms 200 to 300 sq. ft. in area and in the ¾-ton size for rooms with 300 to 450 sq. ft. of floor space. Retail prices will be announced later.

Paper's Press Operators Cooled by 'Spill-Over' Air

WACO, Texas—Allowing 5,000 c.f.m. of conditioned air which first enters the mail room to spill over into the press room, has produced much more comfort for press operators at the publishing plant of the Waco News Tribune-Herald here.

This arrangement is part of a wholesale air conditioning project in the newspaper building, which, in addition to comfort cooling for executive offices, provides controlled temperature for the linotype and composing rooms, complete air conditioning for editorial rooms, and the large mail room which carries out many routine tasks, in addition to mailing newspapers.

Unable to circulate air through the press room and back into the system, because of the pungent smell of ink and hot grease, air conditioning engineers on the job provided instead for "spill-over" air.

Under the plan, 5,000 cu. ft. of air cooled to 75° is introduced through the front wall of the mail room, and after cooling the room, is spilled through two large propeller fans set in the wall which divides the mail room from the press room. The volume of cooled air thus introduced is exhausted immediately by a 5,000 c.f.m. exhaust fan, on the rear wall of the press room.

Since the heat load is of comparatively short duration in the press room, because high-speed presses may turn out an entire day's newspaper production in less than an hour, the press room is kept cool and comfortable.

Florida Hotels, Motels, Trailer Camps Prove Big Market for Packaged Units

MIAMI, Fla.—The big hotels, trailer camps, and motels that line the Florida east coast from West Palm Beach to the Keys provide a rich market for packaged air conditioners, Russell Gray, head of the Gray Refrigeration Co. here, has found.

Gray has successfully attacked this market by pointing out to motels and hotels that window-type units will help them build summer tourist business. To trailer owners, he offers relief from unbearable summer heat at less cost than it would take to travel north and/or rent a house.

SELLING TO HOTELS

"We have sold as many as 60 package units to a single hotel," Gray said, "by pointing out the ease and economy of installation, the flexibility of the units, and the fact that they turn rooms that were previously closed up during the summer months into money-makers."

To date, the Gray firm has installed package coolers ranging from ½ ton to 1-ton units in more than 30 Miami hotels.

Helping substantially is the fact that most such hotels are built of large concrete blocks, a combination of which may be removed to permit insertion of a room cooler through the wall and into the room, without cutting off the view from the window.

The simple plasterwork and block removal necessary to install a package air conditioner has sold a lot of hotel owners who stubbornly refused to have their windows blocked off in the past.

Installing scores of such jobs has taught Gray to estimate the cost accurately. Armed with figures on what one hotel has accomplished, he finds little difficulty in selling another.

ROOM OCCUPANCY RISES

"Package room coolers have proved real eye-openers where a lot of hotel keepers let us install them on a trial basis," Gray grinned. "They found room occupancy jumping up to within 50% or even 90% of the winter peak, as soon as the word got around that air conditioned rooms were available."

Gray, incidentally, recommends to hotel keepers that they charge only a nominal rate of \$3 or \$5 per month added to the room rental to pay for air conditioning.

In this way, there is no "luxury tag" attached to comfort cooling, and summer guests do not shy away through fear of paying over-heavy costs. In the hundreds of house-trailer camps which line the Atlantic shore, Gray found elderly people who had been forced to give up all-metal, or all fiberboard trailers during the hot summer months, because interior temperatures and high humidity made them absolutely unlivable.

TEST INSTALLATIONS

Contacting one trailer owner after another, at one of the leading courts, Gray got permission to install several on a trial basis, allowing the trailer owners to test them out for a single week.

The result of the first such rally, made in 1950, was the sale of every \$400 package unit thus installed—and orders for a dozen more at the same camp.

Since that time, Gray and a salesman have canvassed all trailer camps 20 miles north and south of Miami, and are making installations as rapidly as the supply of room coolers will permit.

"We have uncovered one stiff drawback in selling trailer owners," the Miami room cooler dealer said, "in the form of high operating cost."

"Most of the trailer camp owners charge their space renters a much higher rate, around 6 cents per kilowatt hour, which is quite a problem. However, when the trailer owner,

faced with the problem of moving north during the summer compares this cost with that of traveling, renting a house, etc., he invariably comes around."

Gray has achieved just about the same degree of success in selling the owners of motels. Whereas Florida motels for the most part showed profits only from the first of January to the end of March, many of them are keeping up a 100% occupancy, with the installation of a string of one-ton coolers.

Here again, Gray will either loan out the cooler for a week, while the motel owner tests the public's reception, or the owner may rent a room cooler for \$25 to \$35 per month, and "see what he can do" from a patronage-building standpoint. Sales invariably result.

40 Room Units Installed In Miami Beach Hotel

MIAMI BEACH, Fla.—Forty room air conditioners serve guests at the ultra-modern Tatem hotel on Collins Ave. here.

Employed at the hotel are ¾-ton Mitchell units which have a capacity of 9,050 B.t.u. per hour. Over-all dimensions of each machine are 16½ in. high, 28½ in. wide, and 26½ in. deep.

TYPHOON

Most Complete Line of
AIR CONDITIONERS
in the most popular size range
1½ TO 20 TONS

Evaporative Condensers
3 TO 20 TONS

Backed by more than 40 years
of air cooling experience

TYPHOON Air Conditioning Co., Inc.
794 Union Street, Brooklyn, N. Y.

**CLEANABLE
WATER-COOLED
CONDENSERS**
More Efficient Double-Tube
Counter-flow Design

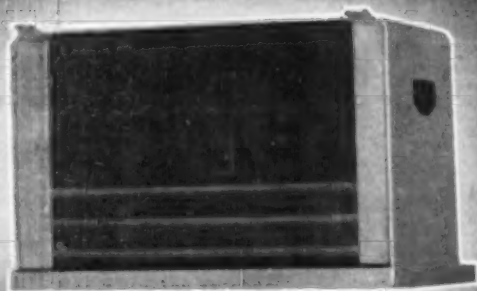
½ to
25-Ton
Capacity

HM

Acceptance in the field is rapidly changing to "Demand" for these efficient, more economical Cleanable water-cooled Condensers. Owners and service men prefer the "new unit" efficiency that can always be maintained by a simple cleaning process. Brass headers, machined and brazed.

Write for Catalog and Prices
WHOLESALE IN PRINCIPAL CITIES
Halstead & Mitchell
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BETZ UNIT COOLERS



Compare

MODEL	BTU CAPACITY			CFM	SURFACE SQ. FT.
	At 1" TD	At 12" TD	At 15" TD		
260UC	260	3120	3900	485	82.34
347UC	347	4164	5205	680	109.39
443UC	433	5196	6495	760	121.49
540UC	540	6480	8100	995	154.13
688UC	688	8256	10320	1260	204.19
867UC	867	10404	13005	1670	256.50
1080UC	1080	12960	16200	1975	307.92
1490UC	1490	17880	22350	2770	443.14

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Current Literature Available

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Manual Identifies 104 Standardized Fittings

KEY NO. N-110

CLEVELAND—A new 16-page reference manual has just been published by the Air Distribution Institute here, which solves various identification problems concerning the 104 standardized fittings most used in warm air heating and air conditioning installations.

The manual illustrates and names each of these fittings in accordance with the listing of the National Bureau of Standards of the U. S. Department of Commerce in Simplified Practice Recommendation R-207-49. For each fitting listed is given the individual manufacturer's number of each one of the institute's 21 member companies.

Included in the parts listing are new fittings used in perimeter systems in basementless homes.

The booklet also contains a two-page chart illustrating complete parts layouts for round and rectangular branch reduction systems, extended plenum system, and gravity warm air system. Every fitting in these system layouts is key numbered to aid in identifying desired parts and to simplify making up bills of materials for specific installations.

The reference manual is being widely distributed in the industry, but additional copies may be obtained on request from the Air Distribution Institute.

8-Page Catalog Describes Types of Cooling Towers

KEY NO. N-111

ST. LOUIS—Water Cooling Equipment Co. here has issued an eight-page catalog describing the different types of cooling towers it makes. The catalog also gives specifications data, explains construction, and gives capacities. It also provides a checklist of 18 points of information the manufacturer needs.

Wiegand Folder Covers Industrial Air Heaters

KEY NO. N-112

PITTSBURGH—Portable and built-in electric air heaters used in industry and business are described in a new four-page folder (F-1530) available from Edwin L. Wiegand Co. here.

Convection, blower, duct, and radiant types available for immediate shipment are shown along with suitable automatic controls. Application photographs illustrate factory and office uses.

The units, which provide heat for continuous or stand-by needs, are standard stock. Special sizes and ratings can be custom made to suit requirements.

Yale & Towne Issues Revised 'How Book'

KEY NO. N-113

PHILADELPHIA—A 24-page booklet titled "The How Book of Cost Cutting Materials Handling" is now available from the Philadelphia Div., Yale & Towne Mfg. Co.

A revised edition of a previous booklet printed in 1947, the "How Book" was prepared under the guidance of Dr. V. S. Karabasz, professor of industrial management, Wharton school, University of Pennsylvania.

A large portion of the "How Book" is concerned with basic background material covering types of skids, pallets, and other industrial handling tools.

Most of the balance covers a comprehensive plan for evaluating present handling methods through an engineering analysis much like a time and motion study.

Enclosed in the book are several charts and summary sheets for making a materials handling analysis. More sheets are available.

Blazer Assembles Catalog To Use as Estimating Guide

KEY NO. N-114

PASSAIC, N. J.—M. Blazer & Son, wholesaler and factory agent handling air conditioning equipment, has assembled a 24-page catalog covering the major part of its line of fans, pumps, motors, condensers, accessories, etc.

The catalog was designed primarily to be a handy estimating guide for refrigeration, ventilation, heating, and air conditioning contractors. This is the first time that such a catalog has been introduced in the field, it is claimed.

Sizes, net prices, relevant data, and capacities are given throughout. Copies are available upon request.

Trane Condensed Catalog Includes Full Line

KEY NO. N-115

LA CROSSE, Wis.—The Trane Co. recently published its first complete, condensed catalog of the full line of Trane air conditioning, heating, ventilating, and heat transfer equipment in five years.

The 36-page "products" bulletin, PB-290, supplements some 40 specialized bulletins on various Trane product lines.

The catalog presents terse descriptions of each line, supplemented with cutaway drawings, products and parts photographs, construction features, and condensed tables summarizing the range of capacities, sizes, and dimensions.

New Trane developments, intro-

duced during the past five years and featured in the bulletin, include the "CentraVac" hermetic centrifugal water chilling units, new reciprocating compressors, centrifugal fans, and gas-fired unit heaters.

The catalog also describes Trane "Custom Air" and "UniTrane" multi-room air conditioning systems, unit air conditioners, evaporative coolers and condensers, convectors, unit heaters, roof ventilators, wall-fin, unit ventilators, steam and hot water heating specialties, heating coils, cooling coils, brazed aluminum heat exchangers, and other specialized Trane products.

'Cat' Maintenance Guide Done In Cartoon Style

KEY NO. N-116

PEORIA, Ill.—"Small Engine Maintenance Guide," a 28-page, four-color service booklet in cartoon story style has been published by Caterpillar Tractor Co. here. In the booklet a dealer's serviceman shows how "good maintenance will add many hours of top performance to your engines."

Maintenance facts apply to the six smaller sizes of "Cat" diesel engines, marine engines, and electric sets. The booklet is first of a series dedicated to proper equipment maintenance.

Full discussion is given to cooling, lubricating, air intake and exhaust, and fuel supply systems. Also included are care of starting engines, marine gear and generators, along with cold weather hints and general facts.

Copies of the booklet, Form 30246, are available from Caterpillar Tractor Co.

Stabiline Automatic Voltage Regulator Line Reviewed

KEY NO. N-117

BRISTOL, Conn.—The Superior Electric Co., manufacturer of voltage control equipment, has released a new 12-page bulletin featuring the complete line of standard Stabiline automatic voltage regulators.

This new Bulletin 8351 describes in detail the workings of a Stabiline automatic voltage regulator in maintaining a constant output voltage regardless of fluctuations in a.c. input line voltages and changes in output load.

All standard models of both the type IE and the type EM Stabilines are discussed.

Type IE (Instantaneous Electronic) is completely electronic, instantaneous in action, with no moving parts. It features low waveform distortion and excellent regulation and stabilization.

Type EM (electro mechanical) consists of an electronic detector circuit controlling a motor-driven powerstat variable transformer.

Its characteristics include zero waveform distortion together with insensitivity to magnitude and power factor of load.

Bulletin 8351 illustrates each standard Stabiline together with outline drawings and performance data. A complete rating chart on the back cover provides engineering information for ease in selecting a unit for a specific application.

JUST ASK US!

Turn to "What's New" Page for useful information on new products.

What the serviceman should know about "VIRGINIA" REFRIGERATION products

"EXTRA DRY ESOTOO" (B.P. +14°F.)

"Extra Dry" is the refrigeration grade SO₂ that service and maintenance engineers have endorsed for more than 20 years. Comes in all popular cylinder sizes.

"V-METH-L" (B.P. -10.7°F.)

Virginia Methyl Chloride is made specifically for refrigeration use. Low moisture content, low acidity and narrow boiling range recommend "V-Meth-L" for the most exacting requirements.

"FREON" REFRIGERANTS

"FREON-113"	"FREON-114"	"FREON-11"
Boiling Point 117.6°F.	Boiling Point 38.0°F.	Boiling Point 74.7°F.
"FREON-12"	"FREON-22"	
Boiling Point -21.6°F.	Boiling Point -41.4°F.	

Virginia Smelting Company is distributor for "Kinetic" Chemicals "Freon" Refrigerants and for "Suniso" Refrigeration Oils.

TO CHARGE A SYSTEM, USE REFRIGERANTS THAT ARE CONSISTENTLY PURE, CONSISTENTLY SURE

HOW TO SEAL CASES, INSPECTION PLATES, PIPE OPENINGS



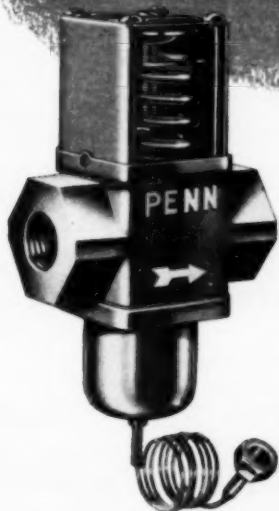
When you seal out moist air, you prevent condensation, corrosion and insulation troubles. The outstanding seal, the one

preferred by service and maintenance engineers, is Permagum. Brown Permagum comes in 2½-lb. and 45-lb. slugs. Adheres to any dry surface. Never hardens; stays plastic from 0° to 350°F.; absolutely odorless. Gray white Permagum comes in rolls containing 80 ft. of ¾" cords. Seals around wiring; won't attack rubber. Never hardens; odorless; can be painted immediately.

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"MEAN-TO-HANDLE" water cooled jobs?

HERE'S YOUR ANSWER



Troubled by water hammer, sticking of seats, rusting of range spring, corrosion or sedimentation on sliding parts? Then . . . switch to PENN Series 246 water valves!

Here's a water valve that can really "take it" and continue to give top performance. That's why more and more refrigeration men specify PENN. If you haven't tried it . . . do it now! Ask your wholesaler or write Penn Controls, Inc., Goshen, Indiana. Export Division: 13 E. 40th Street, New York 16, N. Y., U. S. A. In Canada: Penn Controls Limited, Toronto, Ontario.

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FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

VIRGINIA
Refrigerants

Refrigeration Problems

and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

A Freezer-Room Problem

"Hi, Mike, give me a 1-hp drier and a 1/2-in. Frick TX valve with an 042 orifice, will you? And then I need some advice."

"O.K., Spud, just a second until I get those delivery slips filed, and I'll be right with you."

This is the opening scene before the wholesaler's counter, with "Spud" Murphy, who operates the Acme Refrigeration Service Co., as the customer, and Mike Labonik, who had recently come to town to open a branch of the Refrigeration Supply Co. Mike had quite a background in refrigeration, but due to bad health had been forced to give up his own contracting business up North for a more favorable climate.

After a few minutes he was ready to listen to Spud's troubles. This was not the first time he had helped Spud, and others, too. In fact, he was getting quite a reputation among the local servicemen, and incidentally was building up a nice business.

"O.K., Spud, how what's the trouble?"

"Well, a month or so ago I put in a job for old man Jenkins about a mile out on Ridge Rd. He had a small room just off his basement, that he wanted made into a freezer room. At first I didn't think much of the idea, but it worked out pretty well."

HOW SPUD INSTALLED IT

"It had been a fruit cellar, I guess, but it had good concrete walls, floor, and ceiling. I did a pretty good job of insulating it."

"First I gave it a good mopping of hot pitch, as a seal; then he and I set one-by-fives edgewise against the walls and ceilings, and laid two-by-fives as floor joists."

"We filled these framings with well-packed shredded redwood bark, covered it with refrigerator paper that

was left over from the locker plant that Ed Rama put up last spring, and finished the inside with tongue-and-groove fir that he had. It really made a swell room."

"What about the door?" interposed Mike.

"I was afraid to try to build one, and new ones run into money. Finally I got one from Ted Meecham. It was from an old walk-in Ted had, that wasn't much good, and besides, he'd had it quite a while and was glad to get rid of it, I guess. We framed the door opening and made a good fit."

"The room wasn't very big to start with, so by the time we got it insulated, it was about 8 ft. long, 4 ft. wide, and just under 6 ft. high inside."

"I put in five 22-in. by 84-in. plates, mounted horizontally on a rack so that they made shelves. I fed them with a TX valve with an 042 orifice, and I put on a big heat exchanger. I hooked up a 1-hp 'F-12' machine, set out in the basement only 8 or 10 ft. from the freezer room."

"The unit came equipped with a pressure control, and as I didn't have a thermostat with me, I went ahead and used the pressure control. I think it would have been better to use a thermostat, but it's been working pretty well on the pressure control, and I just haven't bothered to change it."

THE CUSTOMER IS SATISFIED

"It's been carrying a temperature of right around zero, except when they put in a batch of chickens or something to freeze; even then it's not bad. Jenkins is satisfied and has paid me for it."

"But you're not satisfied yourself, is that it?" asked Mike.

"Yes, that's just the way, what made you say that? How did you know? Somebody tell you about it?"

"No, no one has been talking to me about it. I know only what you have just told me. Something you said made me think you weren't satisfied," replied Mike.

"What was that?" asked Spud.

"Never mind," answered Mike.

"Go ahead and finish your story. Besides, you wouldn't be telling me this if you were satisfied, for you have told me that Jenkins seems quite happy."

"Well," resumed Spud, "I picked those plates to match the one-horse machine at -20° plate temperature with the machine in a 90° room. Therefore, it should run at an average suction pressure of a pound or so; anyway, just above zero gauge. Instead, I have to run it at 10 in. of vacuum to carry zero temperature."

"At first, I must have had some moisture in the system. The valve seemed to stick. First it was frosting clear back to the machine; then the frost line went back into the room. I put on a new drier and then another. They helped some, but the valve is still erratic. Seems to me, that with a good big heat exchanger like I used, the frost line should stay put better than it does."

"Then, too, the machine seems to operate too much. Normally, it runs almost one-half the time, and when they put in some food to freeze, it runs practically all the time."

"I can understand that, but why should it run so much of the time when it's just carrying the heat leakage load? That room is well insulated, and the leakage load shouldn't be enough to cause the machine to run one-half the time."

"The basement is not running over 60° F., and the head pressure is only about 100 lbs., so the machine should be above the rated 90° F. capacity."

IS IT THE VALVE OR MOISTURE?

"I've adjusted and readjusted the valve, but it's erratic. It was a new valve, but I'm going to put on this valve I just bought, and change the drier again. If that doesn't help, I'm stumped."

"What I'm afraid of is that next summer that machine is going to run all the time and still not be able to keep the freezer at zero."

"Jenkins is a nice old guy; so's his wife. They really fed me while we were putting the job in—fried chicken, cream gravy, home-baked bread, mashed potatoes, and just about everything else, including pickled peaches."

"Am I crazy about pickled peaches? I don't know anyone who likes pickled peaches as much as I do and gets less of them. I really got ashamed of myself eating up all of Miss Jenkins' pickled peaches."

"Anyway, if this new valve and drier don't stop that hunting of the valve, I don't know what to do. Not only that, I doubt very much that replacing the valve and drier will raise the back-pressure—not to amount to anything, anyway."

"What do you think, Mike?"

WHAT DO YOU THINK?

What do you think, gentle reader? You know as much about this job as Mike did, and yet right away, he saw one thing that was very definitely wrong. Do you? Next week Mike will tell Spud what he suspects. See if you spotted it, also.

(To Be Continued)

Worthington Appoints Distributor for India

HARRISON, N. J.—Mohan T. Advani, founder and managing director of Blue Star Engineering Co., Ltd., Bombay, India, announced that he has signed a contract with Worthington Pump & Machinery Corp. to act as sole distributor of Worthington air conditioning and refrigeration equipment in the Republic of India.

After a tour of Worthington's Harrison plant, Advani said that through this arrangement with Worthington, his Bombay engineering firm and affiliate companies in Calcutta and Madras will now be in a position to take a much more active role than ever before in the broad economic development of India.

"With heavy air conditioning and refrigeration equipment we can provide adequate refrigeration for the all-important preservation of food, as well as for countless large-scale industrial projects all over India," explained Advani. "In addition, we will be able to install highly specialized air conditioning systems for manufacturing plants where temperature and humidity must be controlled for quality production, such as in the textile, pharmaceutical, soap, and chemical industries."

Since 1943 when he formed his engineering business, Advani, through his Blue Star Industries, Ltd., has manufactured parts, assembled, installed, and serviced many air conditioning systems in commercial establishments, hospitals, banks, factories, and the like. The engineering firm has also pioneered in manufacturing water cooling equipment.

USDA Offers Drawings for 2-Temperature, 350-Cu. Ft. Walk-In Box for Farms

WASHINGTON, D. C.—Working drawings for a two-temperature walk-in refrigerator for the farm were recently completed by the U. S. Department of Agriculture.

The drawings are the result of continuing work on constructing and studying experimental installations of such refrigerators—a project of the Agriculture Department's Bureau of Human Nutrition and Home Economics and Bureau of Plant Industry, Soils, and Agricultural Engineering.

The drawings are for a walk-in with a room for chilling and storing meats and other farm products (approximately 250 cu. ft.) and a low-temperature room for freezing and storing fruits, vegetables, and meats (approximately 100 cu. ft.).

It can be built inside another building or outside with the addition of siding and roof, according to USDA Leaflet No. 320.

For one locality at late 1950 prices, cost of materials was about \$1,200. This was divided about equally between building materials and refrigeration equipment. In a surrounding temperature of 70° F., the refrigerator will use approximately 200 kilowatt-hours a month, the leaflet states.

The working drawings (Plan No. 7102) may be obtained through the extension agricultural engineer at many of the state agricultural colleges. A nominal charge to cover printing and mailing is usually made.

If the extension engineer cannot furnish the plans, inquiries may be directed to the U. S. Department of

In \$1,000,000 Center

Huntington Ice Rink Uses 100-Ton Frick Refrigeration System

HUNTINGTON, W. Va.—An ice skating rink 180 ft. by 80 ft. has been constructed in the Huntington Memorial Field House by the Frick Co. of Waynesboro, Pa., using a system of Frick refrigerating equipment of nearly 100-ton capacity.

The cooling system carries from 400 to 1,000 g.p.m. of calcium chloride brine through the more than 40,000 ft. of 1-in. steel pipe on 4-in. centers. Corrosion inhibitor for the brine is sodium dichromate.

Each two floor lengths of pipe are welded together at one end through a hair-pin bend and are individually welded at the other end into feed and return headers.

Each loop of pipe has a hand valve between feed header and floor. There are no expansion joints. Standard 21-ft. black steel pipe with regular mill coating are welded together to carry the brine.

The brine piping system is laid on a 6-in. thick concrete floor resting on 3-in. corkboard in asphalt, which serves as insulation, and a foundation of 5 in. of concrete on clay. Concrete is also used as a filler.

The field house is a million-dollar recreation center built by the Cabell County Recreation Board. It serves some 180,000 persons both in Huntington and surrounding counties in West Virginia as well as Ohio and Kentucky.

Agriculture, Div. of Farm Buildings and Rural Housing, Beltsville, Md. The Agriculture Department does not furnish plans directly, but will refer inquiries to the nearest state handling the request plan.

Earlier this year, the two bureaus noted above completed a study of 160 farm refrigerators in preparation for the development of improved plans and specifications for the construction of such refrigerators.

A report on this study was published in the May 14, 1951, issue of AIR CONDITIONING & REFRIGERATION NEWS. It was written by Earl C. McCracken, physicist in the Bureau of Human Nutrition and Home Economics, and Harry L. Carver and Joseph P. Hollingsworth, senior agricultural engineer and agricultural engineer, respectively, in the Bureau of Plant Industry, Soils, and Agricultural Engineering.

Service Business So Good Assn. Postpones Meeting

CLEVELAND—Business was so good for appliance servicemen that the National Appliance Service Association had to postpone an area meeting from Dec. 7-8 to Jan. 25-26, according to E. A. Mueller, NASA board member.

Explained Mueller, who is owner of Electric Sweeper Service Co. here: "Service station owners are faced with a tremendous amount of work that has to be completed by the end of the year and were forced to wire in their cancellations."

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ROLL-FORMED AND STAMPED PRODUCTS

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Kilgore Avenue Muncie, Indiana

There's always one that's better...and in controls its Ranco!



Ranco controls cut a fancy sales figure in the refrigeration industry—more Ranco controls are in use than any other kind! Why? Because Ranco controls are available for more than 4,000 replacement installations... because they mean greater customer satisfaction... because servicemen can depend on them to deliver accurate, trouble-free service year after year.

Ranco Inc.
COLUMBUS 1, OHIO



WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS



Vornado Line--

(Concluded from Page 1, Column 2)

The entire unit, with the exception of the compressor, will be manufactured in the Sutton plant here. The compressor will be purchased from Tecumseh.

First shown to distributors in late November, the ½-ton unit deviates in appearance from conventional window units in that it has an outwardly tilted face. It is finished in two tones of neutral gray-green with Burgundy and gold trim. It extends only 9½ in. into the room.

Another exclusive feature is the twin air directors that permit directional flow of air to any part of the room in two directions at one time and with a velocity (1,600 f.p.m.) that gives penetration up to 30 ft., according to Jewell.

This twin flow of air permits greater and more complete air movement within the room without drafts and results in maximum cooling effect, Jewell explained. The plastic nozzle, or air director, is pivoted on a plastic ring permitting movement in a 40° arc transversely. The ring is held in place by a retainer permitting complete rotation of the nozzle through 360°. Veins in the nozzle throw air in the direction in which the nozzle is pointed.

A third feature is a pressurized exhaust. The design of the exhaust damper permits positive pressure exhausting of room air at 200 c.f.m. At the same time it provides a variable cooling control from 7,700 to 8,800 B.t.u. per hour.

The exhaust damper picks up air immediately in front of the twin blower discharge, thereby exhausting a portion of the air being moved and reducing the amount of air through the cooling coils, Jewell said.

The effect on the cooling capacity is the same as a variable speed motor which would vary the air flow through the coil. The condensate drainage tube is ¾-in. i.d. plastic tube and eliminates reevaporation of condensate into the room air. Moisture is removed from the air at the rate of 2.5 pints per hour.

The ½-ton unit is 33½ in. long, 26½ in. wide, and 13½ in. high with a net weight of 197 lbs. It will fit in windows from 27 to 48 in. wide.

A simple mounting frame, installed from inside the window and braced to the outside wall, eliminates the need for permanent fastenings either to sill or outside wall.

Jewell said that the new Vornado unit has been through numerous laboratory tests and many design features have been utilized and proven efficient through a year's operation. More than 150 units have been tried in all parts of the country.

NEW PRODUCTS?

Turn to "What's New" Page for useful information on new products. Use Key No. for fastest service.

Genuine Joe says:
"WAGNER BEARINGS
are BEST..."



Wagner's 87% tin babbit-lined bearings are best because they have:
1. Extreme load-carrying capacity.
2. Excellent anti-seizure properties.
3. High resistance to corrosion by acids present in oil.

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ICE CUBE TRAYS, ETC.

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Suit Charges Sunbeam With Refusal To Sell And False Statements

CHICAGO—A \$1,000,000 damage suit filed in Cook County Circuit Court by an appliance dealer charges Sunbeam Corp. with refusing to sell its products to the dealer and with making false statements.

In Washington, meanwhile, Civil Service Employees' Cooperative Association of Philadelphia asked the U. S. Supreme Court not to review the decision of a lower court which ruled in the favor of the association in a suit brought by Sunbeam. The manufacturer has requested the high court to review the ruling.

The Chicago appliance dealer, Central Housekeeping Mart, Inc., accused Sunbeam of trying to force it to sign a fair trade contract. When the dealer refused, the manufacturer told its distributors not to sell Sunbeam products to Central Housekeeping, the latter charged. The dealer asked \$500,000 for damages allegedly resulting from this action.

FALSE STATEMENTS CHARGED BY DEALER

Central Housekeeping also accused Sunbeam of making "malicious, false, and defamatory spoken and published statements." An additional \$500,000 in damages was asked on this charge.

In a brief filed with the U. S. Supreme Court, the Philadelphia cooperative argued that the issues in the fair trade suit brought by Sunbeam were decided by the court in the Schwegmann case.

A lower court had ruled that because Sunbeam's sales were interstate, it could not compel the association to maintain minimum prices on the manufacturer's products when the cooperative had not agreed to do so.

Sunbeam maintained that its sales were intrastate and thus subject to the Pennsylvania fair trade law. The association answered that this argument was put forth unsuccessfully by liquor distillers in the Schwegmann case.

LOOPHOLE?

The association said Sunbeam is of the opinion that it has found a loophole in the Schwegmann decision by refusing, through distributors, to sell to those who don't sign fair trade contracts.

"It is a well-known fact in the Philadelphia marketing area," the association stated in its brief, "that a dealer is now coerced and forced into signing a so-called fair trade agreement in order to obtain Sunbeam products and it is obvious that this illegal marketing scheme will be the subject of further litigation."

George Beise To Head NEMA Market Committee

NEW YORK CITY—The election of George Beise as chairman of the statistical and market research committee of the National Electrical Manufacturers Association has been announced.

The statistical and market research committee is the committee which determines the basis of marketing information for the entire appliance industry.

Beise is at present head of the market research department of Crosley Div., Avco Mfg. Corp. with headquarters in Cincinnati. He is responsible for inaugurating the statistical and market research operation at Hotpoint where he spent three years and was earlier active in market research with the Frigidaire Div. of General Motors. He has been with Crosley more than two years.

Crosley, Motorola Reduce Prices on Some TV Sets

NEW YORK CITY—Crosley Div., Avco Mfg. Corp., announced that it has reduced prices of its 16, 17, and 20-in. console television models by \$20 to \$60. The reductions are the second announced by the company since Sept. 12.

Price reductions were also announced by Motorola, Inc. The company cut prices of some of its 1952 television receivers by \$30 to \$125. Prices of the 19-model line range from \$199.95 to \$600.

Metals Outlook--

(Concluded from Page 1, Column 3)
lead, took government officials to task for urging industry to shift to other less scarce metals.

They argued that short supplies were disappearing faster than many think and that the conversion to other metals is many times a long and costly process.

James J. Russell, chairman of the board of Revere Copper & Brass, Inc., declared that government urging of copper users to switch to aluminum was "unsound" because both metals were equally scarce.

He pointed out that planned expansion of the copper mining industry would add 400,000 tons of copper a year to the world supply by 1955, with proportionate increases each year until then.

"Viewed soberly," he declared, "the prospective expansion appears adequate to cover a normal growth in copper consumption and it is not hard to imagine situations developing wherein the shortage could be turned into surplus almost overnight."

"Both aluminum and copper have necessary positions in the industry of the country and supplies of both will be ample, barring all-out war."

Some New York manufacturers predicted that authorized holders of CMP allotments of copper, aluminum, and steel will soon find supplies more readily available as the National Production Authority tightens its enforcement of regulations this month. Such enforcement will be possible, they indicated, because manufacturers were required to give much more specific information about their intended use of allotments when they applied for first-quarter supplies.

Wooldridge Directs Sales For Seeger Refrigerator

ST. PAUL—Neil H. Griebelow, vice president of the Seeger Refrigerator Co., has announced that J. M. Wooldridge assumed duties as director of sales on Jan. 1, 1952.



J. M. Wooldridge

Wooldridge began with Seeger in 1935 as district sales manager and later became assistant branch manager of the New York office. In January, 1947, Wooldridge returned to the home office in St. Paul as divisional sales manager and has worked in that capacity until his recent promotion.

Wooldridge, as director of sales, will be responsible for the coordination of sales activities in the St. Paul division.

Landers, Frary--

(Concluded from Page 1, Column 3)
ers would tie in with Landers' new exclusive wholesale distribution policy now in effect. As of Jan. 2, the dual distribution maintained in some areas was abolished.

The company feels, Moss said, that more selective retail distribution would result in more aggressive merchandising of the Universal product by the dealer. It is also believed that the dealer would take more interest in price protection and profit margin.

Winter Mart--

(Concluded from Page 1, Column 2)

During the second week of the market, many dealers will be attending the annual convention of the National Appliance & Radio Dealers Association, set for Jan. 14-15 at the Conrad Hilton hotel.

Several producers have already announced their 1952 lines but many market visitors will be seeing the new appliances for the first time. Among products to be introduced at the market is Landers, Frary & Clark's new "Jet 99" vacuum cleaner reportedly featuring new design and styling, easy and fast dirt disposal, extra-powerful motor, and easy handling. It will retail for \$99.95 and be heavily promoted.

Also making its bow will be Apex Electrical Mfg. Co.'s "Roll-A-Way Dish-A-Matic" mobile dishwasher which is said to require neither installation nor special plumbing. It has a 4-gal. built-in water heater tank among other features.

Also, the new Coolerator home freezer line will be introduced to the trade at the market. New models in the 1952 Coolerator refrigerator and range line will be shown to distributors on Feb. 22 at the Hotel Morrison, Chicago.

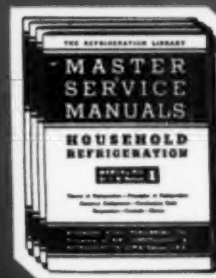
Paul O'Brien Returns as Kerotest Mgr. in N.Y.

PITTSBURGH—Paul O'Brien, who has been "on loan" to the National Production Authority since January 1951, will resume his duties as New York district manager for Kerotest Mfg. Co. in January.

HOUSEHOLD REFRIGERATION

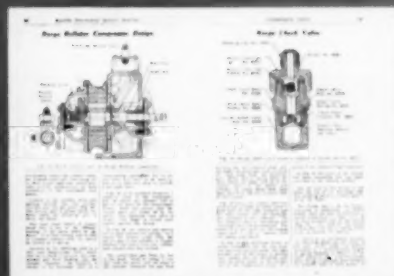
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DIAGRAMS

MANUAL NO. 2—Diagrams show how to distinguish the difference between the fundamental types of systems. Detailed instructions regarding the proper methods of installing and servicing each type. A comprehensive guide for all the popular makes. 128 pages. 179 illustrations. Price \$1.50.

DETAILED DATA

MANUAL NO. 3—Detailed data on methods of servicing several special refrigerators including Allison, Electrice, Holmes, U. S. Hermetic, Majestic Conventional, Majestic Hermetic, Sorold, Iroquois, and Welbach. 144 pages. 59 illustrations. Price \$1.50.

SERVICE INFORMATION

MANUAL NO. 4—Service information on 12 makes of household electric refrigerators including Absopure, Apex, Atwater Kent, Goldspot (Sunbeam and Sears), Copeland, Dayton (Niagara), Fairbanks-Morse, Graybar, Irg-Kold, Iseberg, Liberty, Rice, and Servel. 129 illustrations. 128 pages. Price \$1.50.

GRUNOW

MANUAL NO. 5—Grunow household refrigerator service methods, for all float valve and Carrene meter models. The vacuum cycle of operation. Step by step procedure for removing and replacing all parts and for all other service operations. Chapters: (1) Refrigerant and cycle of operation; (2) head pressure checking, leak detection, and purging; (3) Carrene meter and checking charge; (4) removing and replacing unit parts; (5) thermostats and electrical equipment, testing capacitors, transformers, and relays; (6) service problems and remedies; and (7) key specifications of 1933-37 models useful in replacing parts. 68 pages. Price \$1.50.

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9 CU. FT. MODEL joins Servel's line of 2-door refrigerators. All models feature a choice of three colors for interior trim.

Servel '52 Refrigerator Line--

(Concluded from Page 1)

"odds-and-ends" tray, and an hors d'oeuvres tray which fits easily in the refrigerator interior.

Colors for the interior trim were described as "Ivory Blue," "Sunfrost Green," and "Luminous Gold."

Public support for the two-door 11-cu. ft. model added to last year's line, led the company to add a two-door, 9-cu. ft. model for 1952. John K. Knighton, vice president in charge of sales, said this year's line features four models with across-the-top freezer compartments, two in the one-door models, and two in models with separate doors.

COLOR FOLLOW-UP STUDIES

Knighton said the company decided on interior color trim after it had carefully weighed the results of a number of studies.

One survey was based on a study of kitchen colors in hundreds of thousands of homes across the country, he explained.

"The coast-to-coast, kitchen-to-kitchen checkup showed that the all-white kitchen is rapidly becoming a thing of the past and that more and more homeowners are turning to color to soften the kitchen appearance and make it a more pleasant,

workable room," he stated.

"Ivory Blue, a metallic gray-blue, was one color selected because we found it blended perfectly with 75% of the colors used today on kitchen walls. This finding was based not only on the kitchen survey but also on a check of major paint manufacturers, home decorating magazine editors, kitchen equipment manufacturers, and design experts.

"These studies showed us that another 25% of American housewives had a more dramatic color taste. They go in for deep, unusual colors and want a more unique color harmony for their kitchen. It is for this 25% that Servel offers either of two extra colors, Sunfrost Green or Luminous Gold."

Knighton said the entire 1952 line will again be covered by a 10-year warranty.

The automatic defrosting feature is standard in the 11 and 9-cu. ft. models, while the butter keeper is included in these two models as well as the 10 and 8-cu. ft. refrigerators.

Top-of-the-line model this year is the two-door 11.5-cu. ft. model which features, in addition to the defroster and butter keeper, a polystyrene odds-and-ends basket, adjustable "Unichrome" shelves, and polysty-



ELBOW-EASE latch featured on all 1952 Servel models enables the housewife to open the refrigerator door when her hands are occupied.

rene vegetable fresheners and separate egg tray.

Other changes over last year's models include a completely restyled elbow-ease door latch, standard on all but the smallest models this year, which incorporates the new Servel signature. The book-type latch is specially-moulded of methymethacrylate, a clear, acid-resistant plastic.

HIGHLY CONCENTRATED INSULATION

Use of a highly concentrated insulation to produce thinner walls, together with a careful restyling of the cabinet and the absorption operating unit of the Servel refrigerators, a move first undertaken in last year's models—has increased the food storage capacity while allowing for a decrease in the over-all outside dimensions, compared to models of two years ago, according to the company.

In its 10-cu. ft. model, Servel has incorporated two shelves in the door to accommodate small food items. The shelves-in-doors feature basically serves the same purpose as the odds-and-ends basket in the 9 and 11-cu. ft. models, a Servel feature first introduced last year.

The 10.5-cu. ft. refrigerator also contains a horizontal quick-cold shelf, made of polystyrene, and features a detachable hors d'oeuvres tray which may be kept in the refrigerator, fitted into an indented shelf.

Temperature control dials on 1952 models have been redesigned to allow for 12 degrees of temperature adjustment, compared to only six adjustments in 1951 models.

Styling of the 1952 line is credited to Donald Bailey, who worked with Walter Dorwin Teague and a team of Servel designers and engineers.

The line will be shown by distributors to dealers across the country in a series of meetings starting in about 30 days.

Religious Trend

New Jersey Pastors See Need for Cooled Churches To Compete with Movies

NEW BRUNSWICK, N. J.—New Brunswick may be on its way to becoming the "City of Air Conditioned Churches."

The "trend" was started when St. Ladislav Catholic church ordered a year-round air conditioning system, thus becoming the first in the east to have such a system for the benefit of parishioners. Then the Episcopal Church of St. John the Evangelist followed suit by having a similar system installed.

The 46-year-old Catholic church got its air conditioning system when the pastor, the Rev. John C. Body, could find no objection to this self-addressed question: "If the movies can have air conditioning, why can't we?"

Said Father Body: "There's good reason for air conditioning in churches. Our church is full at all five masses on Sunday, but sometimes in the past it has been uncomfortably cold in the winter and so warm in the summer as to cause women to faint."

The Servel all-year equipment was installed in St. Ladislav church by the Don P. Mondt firm. Mondt then decided to do some missionary work of his own, with the goal of having New Brunswick known as the "City of Air Conditioned Churches."

JUST ASK US

For "easy-to-get" product information... use coupon on "What's New" page.

RACCA Surveys Unit Replacements--

(Concluded from Page 1)

pared RACCA questionnaire which grew out of a meeting last May between George T. Howe, chairman of RACCA's Trade Relations Committee, and C. W. Brown, engineer of the service data and instruction manuals department of General Electric.

"While the survey specifically attempted to arrive at the contractor's average cost of maintaining air conditioning units for a given year, the general response indicated that there was an urgent and crying need for relief.

"The labor and extra parts expenses incurred by the contractor is never figured into the contractor's costs and it is the goal of RACCA that the manufacturer will include such additional costs as part of his warranty."

RACCA SURVEY RESULTS

RACCA reported these survey results:

Of those members who answered the questionnaire, 95% install and service package and/or remote air conditioning equipment. Of these, 37% are distributors, 58% dealers, and 83% contractors (some are a combination of all three) handling eight major manufacturers of air conditioning equipment.

Average cost of extra materials, extra labor, and parts (including refrigerant) per unit was \$12.42, according to RACCA.

Sixty-seven per cent of the replying members set up a service reserve fund and 32% do not. The survey showed that a total of \$41.45 was set up for a service reserve fund for 3-ton units and \$54.51 for 5-ton units.

For 51% of the members polled, reserve covers actual expense, but for 30% it does not, the association said.

In addition to providing statistical data for the national office, many members added comments of their own, it was stated. Among these were the following (on the question of how much money is put in a reserve fund for "Freon," other material, and labor), the association reported:

"Varies with the product and size of the job. Specific incident: a 20-hp. job, recently installed, lost 'Freon' due to seal failure. Seal not installed properly at factory. Cost to the factory was \$50 for duprene ring; cost to us for labor and 'Freon' was \$55." (Illinois)

"Can't answer, but most of cost from defective parts is carried by the contractor. Manufacturers' guarantees on refrigeration equipment are almost worthless." (California)

"Last year small commercial equipment cost us over \$20 per unit add to take care of the manufacturers' warranties." (Washington)

PARTS DEPOTS

"I don't expect manufacturers to pay for labor, but they should have parts depots where parts can be obtained. They should also pay for lost 'Freon'." (New York)

"'Freon' loss from defective material seems to be my worst problem." (Michigan)

"Service of guarantee runs 5% of sales price for the one-year guarantee." (Washington)

"Have had more service expense on commercial refrigeration components than air conditioning units. Expansion valves, compressor body, and coils. Getting valves that are nearly out of warranty from distributor and by the time they are installed the warranty has expired." (Illinois)

Following is the survey questionnaire and results:

1. Do you sell package and/or remote air conditioning equipment? Yes—91%. No—9%.
2. Do you install and/or service package and/or remote air conditioning equipment? Yes—95%. No—5%.
3. Are you a distributor, dealer, or contractor? Distributor—39%. Dealer—58%. Contractor—83%. (Some

are a combination of all three.)

4. List name of manufacturer's air conditioning equipment you handled in 1949: Brunner, Carrier, Chrysler, Frigidaire, General Electric, Westinghouse, Worthington, York, miscellaneous, none.

5. Average cost of extra materials, extra labor, and parts (including refrigerant) per unit? \$12.42.

(The following example was given to show how to figure average cost per unit: Number of a particular make—10

Cost over-all of uncollectible, additional expenses	\$100
Exchange 1 unit, 2 men, 5 hrs. @ \$5 per hr.	50
Refrigerant used, 40 lbs. @ .75	30
Freight	10
Extra materials	10
Total	\$190

Divide by 10 units sold, or \$19 per unit.)

Number of air conditioning units installed and serviced: Less than 5—12%; 5 to 20—5%; 20 to 50—3%; over 50—2%.

6. List name of manufacturer's air conditioning you handled in 1950: Brunner, Carrier, Chrysler, Frigidaire, General Electric, Westinghouse, Worthington, York, miscellaneous.

7. Do you set up a service reserve fund. Yes—67%. No—32%.

8. How much money do you set up for a service reserve fund (for "Freon," other material, labor)? Three-ton unit—\$41.45. Five-ton unit—\$54.51.

Sears Catalog Cuts Prices of Freezers And Refrigerators

CHICAGO—Lower prices on refrigerator, home freezer, and housewares lines are listed in Sears Roebuck & Co.'s midwinter catalog now being mailed out.

For example, an 11-cu. ft. refrigerator has been marked down from \$262.75 to \$212.75, and the price of a home freezer has been cut \$30.

Reductions were also made in the prices of kitchen ranges, radios, and phonographs. A 17-in. television set is now priced at \$159.95.

In all, the 412-page catalog lists reductions on more than 6,000 items. The book is the largest sales catalog ever issued by Sears and lists many more appliances than did last year's midwinter edition.

Price cuts were also noted in the special catalogs of Montgomery Ward & Co., Aldens, Inc., and Spiegel, Inc. The 184-page Ward book contains "the sharpest markdowns we have ever had in a midwinter book," the company said.

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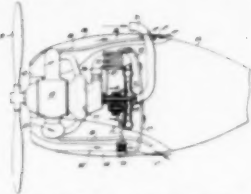
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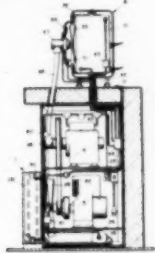
Week of October 16
(Continued)

2,571,256. REFRIGERANT COOLED INTERCOOLER. Alexander M. King, West Hartford, Conn., assignor to United Aircraft Corp., East Hartford, Conn., a corporation of Delaware. Application Sept. 6, 1946, Serial No. 695,145. 1 Claim. (Cl. 123-119.)



1. An internal combustion engine for use in an aircraft, an air intake line connected to said engine, two superchargers in series in said air intake line, an intercooler between said superchargers, and means for mechanically refrigerating said intercooler, the last named means including means providing a closed cyclic path including said intercooler for a compressible refrigerant, a refrigerant compressor interposed in said path, and a cooling means for the compressed refrigerant disposed in said path between said compressor and said intercooler, the refrigerant expanding in said intercooler to absorb heat from said aircraft further having a motor actuated by exhaust gas from said engine, by power from said engine.

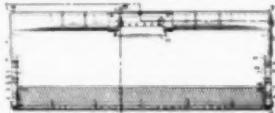
2,571,445. REMOVABLE REFRIGERATOR UNIT IN TRUCK BODY. Chester A. Hawkes, Lansing, Mich., assignor to Freesaver Products, Inc., Lansing, Mich., a corporation of Michigan. Application May 7, 1948, Serial No. 92,056. 1 Claim. (Cl. 68-117.)



In a closed refrigerated truck body, the combination comprising: a pair of adjacent walls and a floor of low thermal conductivity forming a corner; a portable, elongated, rectangular frame structure for carrying a complete refrigeration unit, the said frame structure having its longest sides vertically disposed; two of said sides being nested against said adjacent walls of said truck body, whereby said two sides of said frame are closed by said adjacent walls of said truck; an electric motor, an internal combustion engine, a compressor, a refrigerant receiving tank and associated connecting and control means all located within and supported upon said frame, and a fan supported and connected for rotation when either said motor or said engine are driving said compressor; means defining an opening through one of said adjacent walls of said truck axially aligned and in register with said fan and a condenser unit within said truck body.

opening supported upon one side of said frame and also in register with and axially aligned with said fan; means defining a second opening in the other of said adjacent walls of said truck in register with the side of said frame adjacent thereto, and hinged and louvered means by which said opening may be opened and closed; panels of low thermal conductivity covering the sides of said frame remote from said adjacent walls of said truck body and a further similar panel covering the top of said frame, an evaporator and fan unit above said top panel and operatively connected with the parts within said frame for cooling the air space within said truck; whereby said device may be placed adjacent an opening in said wall of said truck with its insulated sides and end contacting at their edges only said adjacent walls of said truck, said condenser thereby being exposed to the atmosphere and said evaporator being within the uppermost air space to be refrigerated and all working parts within said frame being accessible from outside of said truck.

2,571,400. DOOR FOR REFRIGERATOR COMPARTMENTS. Alfred E. Nave, Cincinnati, Ohio, assignor to Aeco Mfg. Corp., Cincinnati, Ohio, a corporation of Delaware. Application April 1, 1949, Serial No. 84,945. 4 Claims. (Cl. 30-35.)



3. A refrigerator evaporator door comprising a molded front panel, a molded rear panel, a continuous upstanding flange integrally formed with one of said panels projecting towards and engaging the other said panel along a continuous mating face, reinforcing ribs molded into said panels engaging said flange, said front and rear panels being intimately joined by a bonding agent disposed on their mating faces, portions of said flange being laterally offset at the sides of said panels and including bosses formed integrally therewith, said front and rear panels being extended beyond the offset portions of said flange whereby they are hidden from view, and a mounting plate secured to said bosses at each side of the door in covering relationship with the offset portions of said flange.

2,571,787. REFRIGERATOR FROST INDICATOR. Raymond E. Tobey, Springfield, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 12, 1946, Serial No. 683,377. 7 Claims. (Cl. 68-1.)



1. In a refrigerator cabinet having a food storage chamber, a cooling unit having a surface exposed to the air of said chamber, the combination with said surface of a member normally movable between a first position and a second position and in a direction substantially parallel to said surface, means for biasing said member from said first position to said second position, an actuating device responsive to said door for moving said member from said second position to said first position when said door is moved to its closed position, said device releasing said member for movement by said biasing means when said door is moved from said closed position, at least said first position of said member being closely adjacent said surface of the cooling unit so that frost forming thereon retains said member in said first position against the action of said biasing means when said door is moved from its closed position and means for indicating whether said member is retained in said first position when said door is moved from said closed position.

2,571,280. REFRIGERANT COMPRESSOR. Benjamin W. Bogdan, Dedham, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application March 31, 1946, Serial No. 12,190. 1 Claim. (Cl. 230-282.)

1. An ice-forming and melting apparatus comprising a tank, having an inlet and an outlet, for containing water to be frozen, melted and circulated in a tortuous passageway from the inlet to the outlet, a plurality of juxtaposed, two-faced refrigerant-receiving and heat-transferring devices, each provided with an extensive heat transfer surface on each face thereof and constructed and arranged to receive refrigerant for congelating a liquid on said surfaces, mounted in said tank, said heat transfer surfaces lying in generally parallel planes to provide a plurality of parallel flow spaces, partitions, extending from an intermediate portion of one heat transfer surface to another, parallel to said flow spaces, to provide additional parallel flow spaces, said surfaces lying in generally vertical planes, the water flow being underneath the lower edges of all said partitions, and a refrigerant container above said partitions with respect to which said partitions have a water-tight connection, for supplying liquid refrigerant to said devices and receiving gaseous refrigerant therefrom.

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing office under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request for a bid is made.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation. The following are the offices of the U. S. Army Ordnance Office, Ordnance Tank Automotive Center, Detroit Arsenal, Frankford Arsenal, Picatinny Arsenal, Harlan Arsenal, Rock Island Arsenal, Springfield Arsenal, Watervliet Arsenal and Wadsworth Arsenal. Complete information on any purchase listed by any of these offices can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not send a bid to the Ordnance District Office on a purchase unless it is listed by one of the above-named offices. Ordnance District Offices do not have information on any other purchases.

Invitations for Bids numbers will be followed by the letter "B." Requests for proposals or quotations will be indicated in this column by the letter "Q." or, if numbered, the number will be followed by the letter "Q."

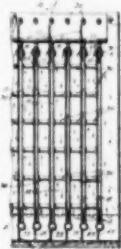
Description	Quantity	Reference No.	App. Bid Date
Phila. District, Corps Of Engineers, 121 N. Broad St., Phila., Pa. Door refrigerated, warehouse 97 (ENG-36-109-8 Jan 52 2 feet 6 inches x 6 feet 33-128)			
District Engineer, St. Louis District, Corps Of Engineers St. Louis 1, Missouri (ENG-23-063-52-42R 8 Jan 52)			
Check valve section, pipe line, portable consisting of 1 gate valve and 1 check valve, fabricated into a 20 foot section of pipe, grooved for couplings, complete w/adapters, couplings and gaskets, "valve sections for portable pipe lines" (Supply to MIL-Spec. MIL-P-10837A, dtd. May 1951, except gasket to read minus 40 degree F in sizes as follows: 4 inch 6 inch			

In a compressor having a valve plate with a straight suction slot therethrough and a straight discharge slot therethrough on each side of said suction slot and



spaced therefrom and extending substantially parallel thereto, and having a cylinder head with a substantially straight rib extending between each of said discharge slots and said suction slot, the combination of a gasket between said head and plate, said gasket having slots in alignment with said suction and discharge slots, and having bent-up portions extending from the sides of said suction slot in said gasket alongside and in contact with said ribs.

2,571,282. LIQUID COOLING APPARATUS. Joseph L. Morrison, Lincolnwood, Ill. Application Dec. 30, 1948, Serial No. 62,198. 4 Claims. (Cl. 68-141.)



1. An ice-forming and melting apparatus comprising a tank, having an inlet and an outlet, for containing water to be frozen, melted and circulated in a tortuous passageway from the inlet to the outlet, a plurality of juxtaposed, two-faced refrigerant-receiving and heat-transferring devices, each provided with an extensive heat transfer surface on each face thereof and constructed and arranged to receive refrigerant for congelating a liquid on said surfaces, mounted in said tank, said heat transfer surfaces lying in generally parallel planes to provide a plurality of parallel flow spaces, partitions, extending from an intermediate portion of one heat transfer surface to another, parallel to said flow spaces, to provide additional parallel flow spaces, said surfaces lying in generally vertical planes, the water flow being underneath the lower edges of all said partitions, and a refrigerant container above said partitions with respect to which said partitions have a water-tight connection, for supplying liquid refrigerant to said devices and receiving gaseous refrigerant therefrom.

Government Contracts

PROCUREMENT INFORMATION

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
General Services Administration, 56 Whitehall St., S.W., Atlanta, Georgia			
Reconditioning, repairs and parts for electric fans, furnishing complete service on all types of Government-owned electric fans, as may be required by any or all Government agencies and departments located within the Metropolitan area of Knoxville, Tenn.		AT-7280	1-10-52
General Services Administration, Federal Supply Service, Room 329 U. S. Court House, Chicago 4, Illinois			
Refrigerators; gsa, domestic commercial and cabinet type		CHD-1022	1-4-52

The General Services Administration is now selling standard Federal Specifications at its ten Regional Offices. In addition, indexes (lists) of the standard Military specifications may be inspected at the GSA Regional offices, but the Military specifications themselves are not for sale there. Inquiries may be addressed to the General Services Regional Office at any of the following locations:

Room 420, P.O. and Courthouse, Boston, Mass.	1800 Federal Office Bldg, 911 Walnut Street, Kansas City, Missouri
250 Hudson Street, New York City, N. Y.	1114 Commerce Street, Dallas 2, Texas
Room 7207, Federal Supply Bldg, 7th and D Streets S. W., Washington 25, D. C.	Bldg. 1-C, Denver Federal Center, Denver, Colorado
50 Whitehall St., S. W., Atlanta, Georgia	630 Sansome Street, San Francisco 11, Calif.
Room 528 Court House, 219 S. Clark Street, Chicago, Illinois	U. S. Courthouse, Seattle 4, Washington

CONTRACTS AWARDED AS OF DEC. 20, 1951

Description—Contractor and Address
Ships Parts Control Center, Naval Supply Depot, Mechanicsburg, Pa. Repair parts for refrigeration equip.—095, 837,207—Penn Controls Inc., Goshen, Ind.
Department Of The Navy, Bureau Of Ships, Washington 25, D. C. Air conditioning refrigeration plants—16, 8110,363—Airtemp Construction Corp., Dayton, Ohio

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

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POSITIONS WANTED

SALES & SERVICE engineer—with technical knowledge and 18 years' practical experience in the sale, design, installation and service of commercial, industrial refrigeration and air conditioning equipment. Can handle men in any capacity. Industrious, reliable and accustomed to high earnings. 26 years old, married. Will locate anywhere for well-established concern who can offer permanent position with future. BOX 3891, Air Conditioning & Refrigeration News.

SALES EXECUTIVE—Organization, administration, personnel training, work with distributors, market surveys and analyses; advertising, sales promotion. Fifteen years' experience in refrigeration field, six years on national basis. Available soon. Locate anywhere. Age under forty-five. Five figure salary. BOX 3893, Air Conditioning & Refrigeration News, or phone Temple 5806, Washington, D. C.

EXPORT SALES—minded? Manufacturers attention! Can you deliver? Utilize my exclusive full-time services as a seasoned overseas traveling salesman. Live-wire producer. Will go anywhere. Available February 1, 1952. Write BOX 3895, Air Conditioning & Refrigeration News.

REFRIGERATION, HEATING and air conditioning service engineer, on heavy equipment. Have a good education and knows his business. Has traveled on the road for a nationally known manufacturer and can figure A.C. & R. requirements. Desire position in a warm climate, preferably as service manager. Age 48 with 20 years' experience. BOX 3897, Air Conditioning & Refrigeration News.

SALES ENGINEER, seven years' experience in all phases of commercial refrigeration, packaged air conditioning, market layout, hotel equipment. Would prefer position with firm in South, Southeast. Compensation based on sales volume must have potential of \$10,000 per year and up. Available March 1st. BOX 3898, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

OPPORTUNITY FOR refrigeration service-customer relations man with sound refrigeration background. Will require substantial amount travel and contact distributor organizations. Starting salary \$5,000 per year plus expenses. If interested, give complete qualifications. BOX 3892, Air Conditioning & Refrigeration News.

SALESMAN—MIDDLEWEST manufacturer complete line refrigerated display and storage equipment, national distribution, has opening for an experienced salesman. Selling dealers, distributors and food chains. Must be willing to travel extensively. Selling record essential; industry experience desirable. Attractive salary proposal with a future. Write BOX 3894, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

FOR SALE, surplus of brand new air conditioning coils, 10-15-20 tons, with expansion valves, manufactured by a well known company, or will trade for 3 and 5 ton coils. Write, AIR CONDITIONING ENGINEER CO., 2116 Locust Street, St. Louis, Missouri.

REFRIGERATOR DOORS, 36" by 66" double batten auto close doors complete with removable track heads for a 72" track. 15" corkboard insulation. 16 gauge metal clad. Brand new. \$80.00 each. Freight prepaid in U.S. Door height will be altered for anything up to 11 ft. 2 in. track for \$15.00 additional. RIMEL CO., Cincinnati, Ohio.

PROTECTIVE COVERS and pads for air conditioners, freezers and refrigerators. Standard sizes and made to order. Complete line of moving pads, carrying straps, hoisting belts, dollies and stair climbing trucks, for immediate delivery. Write for catalog and price list. ELKAY PRODUCTS CO., 528 West 16th St., N.Y. 11. Telephone WATKINS 9-1148.

WHILE THEY last—relays, all makes, some as low as \$5.00, 1/2 h.p. hermetic units, \$47.00; capillary tubes for all sealed units, \$1.25. FERNDALE REFRIGERATION SUPPLY, 205 Flowerdale Street, Ferndale 20, Michigan.

52 BUYS standard brand 1/2 h.p. open type or sealed type complete units. Other sizes up to 3-h.p. Write for complete listings on units and parts, including Kilron overload relays @ 1/4. MANN REFRIGERATION SUPPLY CO., 440 Lafayette Street, New York 3, N. Y.

FOR SALE—Standard makes—new hermetic units—static & fan-cooled cond. 1/4, 1/2, 3/4, 1 h.p. Open units 1/2, 3/4, 1 h.p. valves, pressure controls, belts, fittings. Water-cooling coils for carbonated water. Send for price lists and prices on our many other parts and supplies at great savings. Sold on money back guarantee. WALTER W. STARR, 2833 Lincoln, Chicago, Ill.

MILLS AUTOMATIC ice cube makers, brand new, in original cases. Very, very cheap. To be sold only sight draft bill of lading or certified check with order. W. J. TRIMBLE, 4652 West Henrietta, Rd., West Henrietta, New York.

SURPLUS INVENTORY—100 new commercial ice-making evaporators. Finned Tin-plated copper. Refrigerated tray shelves. Hangers attached. Will handle up to 30 cubic feet. Complete with four aluminum ice-cube trays & grids, 24 cubes (3 1/2 lbs.) per tray. Dozen or more \$38 each. Sample \$44 each. Los Angeles. UTILITY REFRIGERATOR COMPANY, 4621 West Washington Blvd., Los Angeles 16.

AVAILABLE FOR immediate delivery reasonable quantity 1/2 h.p. 115 volts, 50/60 cycles, hermetically sealed condensing units complete with freezer type evaporator. BOX 3896, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

FOR SALE: Refrigerator and washing machine service business—commercial and domestic. Complete set-up: trucks, equipment, parts, tools, merchandise. Commercial refrigeration maintenance contracts in force. A going business ready for someone with capital. A steal at \$8,000 cash. GREEN-ELLIS, 1263 E. Colorado Blvd., Glendale, Calif.

MISCELLANEOUS

"SEALED UNIT Rebuilding—Basic Tools & Methods" now in its third and final printing. This course of trade secrets gives complete information on equipping a shop to handle this work. Information found nowhere else \$12.50 while supply lasts or write for details. H. CUSTER, Box 98, Center Line, Michigan.

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NFFLI Offers Aid on Freezer Ads--

(Concluded from Page 1, Column 3)
The text of the letter to the FTC follows:

"The National Frozen Food Locker Institute is the trade organization which represents the nation's 11,000 frozen food locker plants. Its chief objective is to provide every possible assistance to the components of the frozen food industry in promoting the Frozen Food Way of Living.

"There are three major elements in the frozen food industry—locker plants, home freezers, and commercial frozen foods. Although these industry segments usually work as a team, there are times when they unthinkingly work at cross purposes. The purpose of this letter is to discuss with you one of these occasions and to present our views on possible remedial measures.

LOCKER INDUSTRY FAVORS HOME FREEZERS

"Before delving into the subject at hand, I would like to make a statement of clarification to remove any possibility of being misunderstood. The frozen food locker industry, by and large, is enthusiastically in favor of the home freezer.

"Before the advent of the home freezer, it was impossible to expand the locker operator's business without the expansion of the physical locker plant with an increase in capital investment. This is no longer true.

"Today thousands of locker plants are expanding their businesses rapidly by supplying food and services to hosts of new home freezer owners. Many locker plants are actively promoting the sale of home freezers.

"The problem about which we are concerned is that of advertising on the part of some home freezer manufacturers. Quite a few home freezer advertisements are, in our studied opinion, quite misleading to the reading public.

"Specifically, the capacity of food that freezers will hold is sometimes claimed to be far in excess of the amount that the average family will be able to store. Economy claims are frequently made which the average family would find it extremely difficult to enjoy.

AMOUNT OF FOOD UNITS CAN FREEZE OFTEN MISLEADING

"In addition, misleading claims are made concerning the amounts of food that given freezers are able to quick freeze. These are the most frequently misrepresented points.

"Our concern over these advertising malpractices is the end result. Many a consumer, disillusioned by his inability to enjoy the benefits that he expected as a result of such advertising, has given up in disgust.

"Not being aware of the true factors involved in his situation, he has often turned irrevocably against frozen foods. He did not realize that the frozen food way of living was not to blame—his dissatisfaction grew entirely from his inability to reap the benefits that he was led to believe were his by the home freezer people.

"All of this information has been brought to the attention of the Federal Trade Commission in the past few years by Mr. Donald Kuntz, a locker operator in Logansport, Ind.

In discussing the matter recently with Mr. Charles Sweeney, assistant chief, Division of Investigation, Bureau of Anti-Deceptive Practices of the Federal Trade Commission in Washington, the question was raised as to what is being done about it.

"Clearly, the practices about which we are concerned are serious and require attention and action on the part of the commission. Exactly what form that action should take is the problem which the commission itself must, of course, decide.

"In dealing with problems of this type, it is our custom and purpose to be constructive. In my meeting with Mr. Sweeney in Washington, the suggestion was advanced that an Industry Trade Practice Conference be instituted by the commission for the purpose of developing some acceptable and well-defined limitations on the points in question.

"For example, a definite number of pounds of food per cubic foot could be agreed upon by the industry members participating in such a conference which could then constitute the standard which each home freezer manufacturer could use as his guide in advertising his freezer storage capacity.

"The United States Department of Agriculture might possibly provide an acceptable answer to such problem. This would not only result in a simplification of the problem as far as the commission itself is concerned but would also result in the accrual of benefits to the industry by the presentation to the consuming public of a solid front on this point.

"The National Frozen Food Locker Institute numbers among its manufacturer members a number of home freezer producers. The institute will gladly do all in its power to assist you in correcting this condition. We would like to have you study the problem in the light of our presentation here and will appreciate your comments concerning it at your earliest convenience."

Coldmobile Sold--

(Concluded from Page 1, Column 3)

Kirkpatrick has been active in truck refrigeration for the past 13 years, and for several years prior to forming his own company was chief engineer of Advance Mfg. Co., also a producer of truck units. He holds several patents on truck refrigeration and allied applications.

Union Asbestos & Rubber has been a manufacturer of such items as railroad equipment and asbestos specialties for many years and more recently became interested in truck refrigeration through acquisition of Dromgold & Glenn.

W. H. Fehrs, vice president of the parent firm, is in direct charge of the division, while Merle Feather, formerly associated with the Fruehauf Co., manufacturer of trailers, heads up its sales activities.

L. C. Bewig Represents Jamison

HAGERSTOWN, Md. — Jamison Cold Storage Door Co. has announced the appointment of Louis C. Bewig, St. Louis, to handle its line of cold storage, refrigerator, and insulated doors in the territory of eastern Missouri and southern Illinois.



Model M-132 Mitchell room cooler.

Mitchell Room Cooler--

(Concluded from Page 1, Column 5)
Cool." In addition, its initial cost of \$229.95 puts it well within the reach of the average consumer.

The M-132 features the exclusive "Mitchell-Mount," which allows quicker installation, even in windows as narrow as 23 in. Because no filler panels are used that anchor windows closed, they may be raised or lowered at any time for washing.

Other features of the 1952 model are the Turbo-Dryer which eliminates stagnation of the refrigerant by creating a turbulence within the evaporator tubing, thus breaking up surface tension; and the Micro-Filter, which laboratory tests have proved capable of removing 99.9% of the dirt, dust, and pollen from the air.

The unit's decorative cabinet is constructed of 19-gauge furniture steel and is finished in ivory. Over-all dimensions are 13 1/2 in. high, 23 in. wide, and 30 1/2 in. deep. Capacity of the unit is 4,600 B.t.u. per hour.

The M-132 is covered by the Mitchell five-year warranty as are all other models in the company's line.

Westinghouse To Sponsor Presidential Campaign Coverage on CBS-Radio, TV

PITTSBURGH — Nationwide television and radio coverage of the 1952 presidential election campaign will be sponsored by Westinghouse Electric Corp. over the Columbia Broadcasting System TV and radio networks, it was announced by J. M. McKibbin, Westinghouse vice president in charge of consumer products.

These Westinghouse-sponsored CBS networks will cover the hundred largest population areas in the United States from coast to coast. It will be the first time the Republican and Democratic conventions, as well as the general elections, have ever been televised on a national hookup.

The program package will include full coverage of both political party conventions in Chicago, a 13-week non-partisan "Get-Out-the-Vote" campaign, and election returns the night of the election on Nov. 4.

The 13-week "Get-Out-the-Vote" campaign will start in August and continue until the night before the election. It will offer equal time to both major parties. There will be a minimum of 20 hours of coverage of each party convention by both CBS TV and CBS radio.

In general, the Westinghouse-sponsored convention programs will embrace five types of TV shows. All important events from the convention floor will be televised with accompanying analysis from the CBS studios in the International Amphitheater. Commentary, interview, and discussion programs will be originated in the convention hall and in

special studios in the Hilton hotel. Special events coverage in the Chicago area will be handled by on-the-spot mobile CBS television crews at press conferences, demonstrations, candidates' headquarters, and other events of high interest to viewers.

On the Sunday night before each convention, viewers will be acquainted with on-the-ground conditions at the convention site by means of special programs designed to give them full perspective of the coming events.

The fifth type of program will consist of human interest shows built around candidates' wives, delegates, party officials, and technicians at the convention hall. This will include daytime programs designed for women's audiences.

To arrange interviews with party leaders and analyses of behind-the-scenes activities, CBS-TV will have George Allen, confidant of presidents and author of the book, "Presidents Who Have Known Me."

Radio coverage at the convention will include the use of many different studios in various locations, mobile transmitters, and walkie-talkies from the convention floor. A staff of approximately 200 people will handle the combined TV and radio coverage for CBS.

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